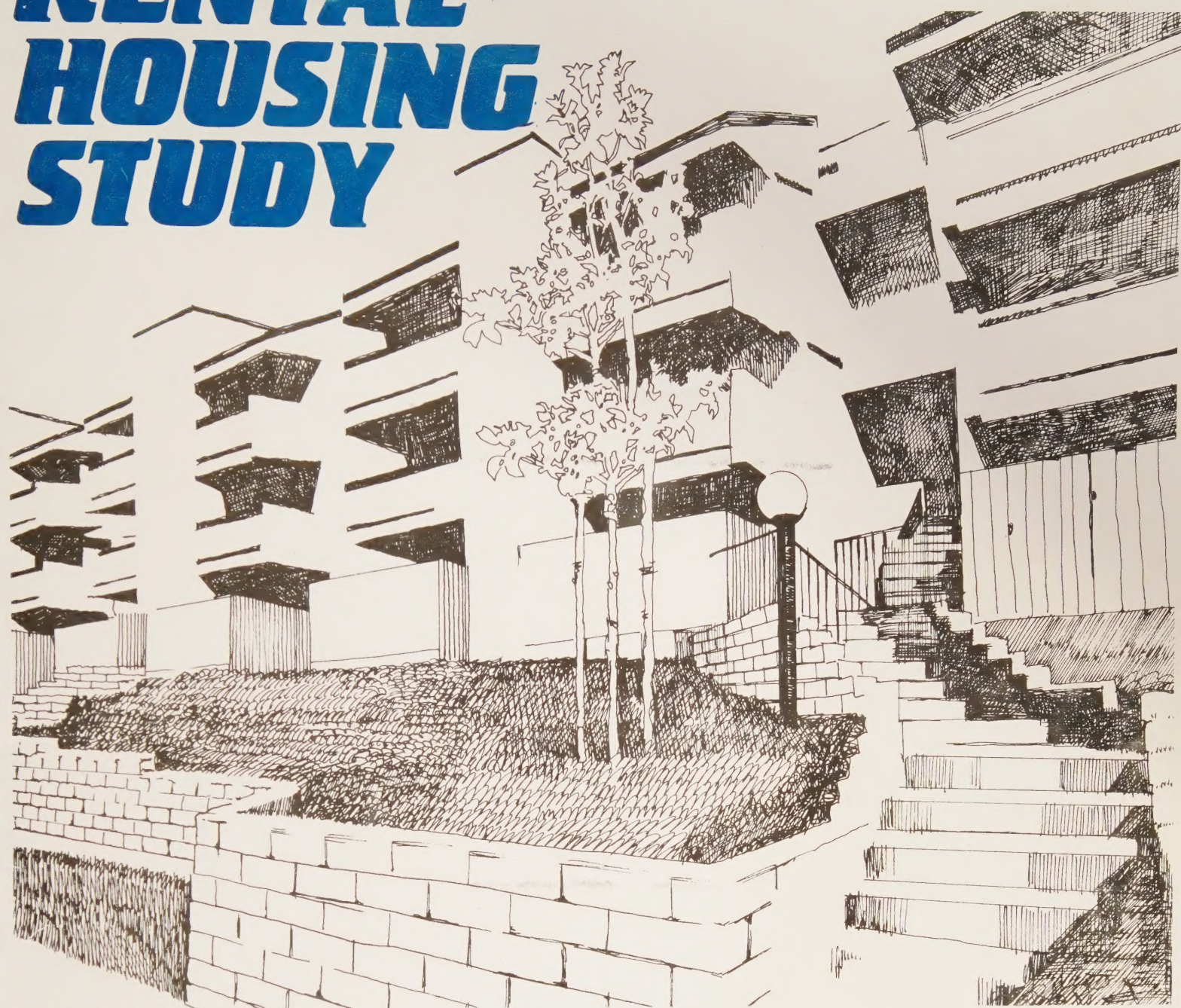


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[V. 4]

# RENTAL HOUSING STUDY



**1984** CITY OF LOS ANGELES RENT STABILIZATION DIVISION

INSTITUTE OF GOVERNMENTAL  
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**TECHNICAL APPENDICES**






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## TECHNICAL APPENDICES

Part 1	Mobile Home Study Approach (to be included)
Part 2	HRS&A Study Approach
Part 3	CDD Study Approach



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THE LOS ANGELES RENT STABILIZATION SYSTEM:  
IMPACTS AND ALTERNATIVES

APPENDICES

Part 2



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HRS&A  
SAMPLING DESIGN

APPENDICES

Part 2



## APPENDIX A

### SAMPLING DESIGN AND METHODS FOR THE LOS ANGELES TENANTS SAMPLE

The design of the tenant survey was a two stage probability sample of tenant households with telephones. The first stage was a computer generated random sample of telephone numbers in Los Angeles telephone exchanges (in both the 213 and 818 Area Codes). The second stage was generated by adding random digits to the last digits of those numbers from the first stage that were found to be associated with rent stabilized tenant households. No correction factor needs to be applied for sampling without replacement as the Sampling Fraction is quite small.

#### Sampling Frame

The target population for this sample was all households in rent stabilized dwelling units inside the City of Los Angeles. The sampling frame was all households with telephones having phone numbers in a Los Angeles exchange. Screening questions were used at the outset of the interview to eliminate households from the frame that were not part of the target population. Thus, the survey population was tenants with telephones residing in rent stabilized units inside the City of Los Angeles.

The exclusion of households without telephones was not expected to create generalizability problems because in all but a handful of Los Angeles Census Tracts, over 90 percent of the households have telephones. However, as an extra precaution, an area probability sample was drawn in Census Tracts with a high concentration of households without telephones. The tenants in that sample without telephones were compared to those with telephones on a series of key variables. (See the next section on the Analysis of the Tenants Without Telephones.) No statistically significant differences were found on these variables between the tenants with and those without telephones.

To establish the sampling frame, all telephone exchanges totally or partially inside the City of Los Angeles as indicated by the Los Angeles Area Codes were identified. These exchange numbers were sent to the nationally recognized firm of Survey Sampling, Inc. to be used as strata in drawing the first stage of the sample.

#### First Stage Sampling

Survey Sampling, Inc. randomly drew 12,000 phone numbers for these exchanges using its computerized bank of telephone numbers for the United States. The first stage numbers were in four





replicates of 3,000 numbers each. A replicate is an independent sampling of numbers. The sampling was done without replacement. The drawing was stratified by telephone exchange for each replicate so that all Los Angeles telephone exchanges were represented in the first stage.

### Screening and Second Stage Sampling

The random sample of phone numbers was sent to the nationally recognized interviewing firm of Professional Research Organization, Inc. Their experienced interviewers called the number. When initial contact was made with a responsible adult in a household, the interviewers asked the respondent a series of eight screening questions. These were:

1. Do you live inside the city limits of one of the following cities: Los Angeles, Burbank, Glendale, Inglewood, Long Beach, Pasadena or Torrance? [If no, the interview was terminated. If yes, Screen 2 was asked.]
2. Which of those cities do you live in? [If Los Angeles, the Los Angeles Interview questions were asked. If one of the other cities, the comparison cities questions were asked in the interview.]
3. Do you rent the place where you live? [If no, the interview was terminated. If yes, Screen 4 was asked.]
4. Do you live in a mobile home or trailer in a mobile home park? [If yes, the interview was terminated. If no, Screen 5 was added.]
5. Do you live in a building with two or more apartments or on a lot containing three or more single family houses? [If no, the interview was terminated. If yes, Screen 6 was asked.]
6. Do you live in public housing or do you or your landlord receive assistance payment from the government, specifically Section 8, to lower the rent you pay? [If yes, the interview was terminated. If no, Screen 7 was asked. If not sure, an attempt was made to talk with a household member who might know.]
7. [Asked only of Los Angeles residents.] Is your place covered by the City's rent stabilization program? [If no, Screen 8 was asked. If yes, the interview was begun.]
8. Why isn't it covered by rent control? [If a valid reason was given, the interview was terminated. If not sure, the interview was begun.]



Households surviving the screening process were then interviewed and placed in the final sample.

The phone numbers of those surviving the screening were then used to generate additional numbers by adding a random digit to the last digit of the screened number. This is standard practice in telephone surveying when subsegments of the population must be identified before they can be interviewed. Phone numbers are assigned within exchanges to households and businesses in four digit blocks. Though there are some exceptions, residential blocks are kept separate from commercial blocks and city boundaries are also reflected in these blocks whenever an exchange cuts across city boundaries. Hence, adding a random number to numbers surviving the screening process increased the likelihood of finding other households meeting the criteria for inclusion in the target sample. While this is a slight departure from pure random digit dialing, research has shown that very little bias is introduced. (See Kalton, Introduction to Survey Sampling, Sage, 1983; and Frey, Survey Research by Telephone, Sage, 1983.)

If the addition of the random digits created phone numbers of households that had already been contacted, the household was not called a second time. Hence, the sampling was still without replacement.

#### Response Rates

The results of the 22,314 calls made to obtain the final sample of 2682 rent stabilized households inside Los Angeles are summarized in Exhibit A-1.

The completion rate for those households surviving the screening process and thus eligible for inclusion in the final sample was an excellent 82 percent. In telephone surveys, response rates above 65 percent are considered satisfactory.

The completion rate for the total number of calls was 12 percent and the rate for those contacted in any way was 25 percent. These rates are accounted for by the fact that this survey had targeted a much smaller proportion of the Los Angeles population than, say, a study of all adults over 18 years old or all registered voters.

The interview was completed with 82 percent of those identified as part of the target population. It is thus not likely that nonresponse bias is a major factor in this sample.



## Random Sampling Error

In repeated samples of the same size, a given sample statistic will take on different values across the various samples. That is, it will have a sampling distribution. The standard deviation of the values in the sampling distribution (called the Standard Error of the Statistic) can be calculated using the Central Limit Theorem which is the fundamental theorem of applied statistical analysis.

The Standard Error, weighted by a confidence factor (say 90 percent or 95 percent confidence) establishes the Sampling Error for any given sample size. This Sampling Error can be used to compute the Confidence Interval--the range of values above and below the obtained statistic in which we can have a specified level of confidence that the population parameter resides within that range. In this case, because the Sampling Fraction (the ratio of sample size to population size) is very small (less than four percent), the Sampling Error is virtually independent of population size and will not require a correction for sampling without replacement.

Exhibit A-2 summarizes the size of the Sampling Error for selected percentages in the sample for 90 and 95 percent levels of confidence. These ranges are the 90 percent and 95 percent Confidence Intervals for selected percentages in a sample of 2,682 tenant households. For example, if the percent in the sample is 75, the analyst can be 90 percent confident that the population parameter will fall between 74 and 76 percent. There is little variation in the table because a sample size of 2,682 has very little Sampling Error regardless of the percentages observed in the sample.

### **SAMPLING DESIGN FOR THE COMPARISON CITIES**

The cities of Burbank, Glendale, Inglewood, Long Beach, Pasadena and Torrance were chosen as comparison cities adjacent to Los Angeles and without rent stabilization. The sampling design for them was the same two stage probability sample described for the Los Angeles tenants except that the first stage consisted of numbers randomly selected by Survey Sampling, Inc. from exchanges totally or partially inside those cities. If the screening for the Los Angeles tenants identified a tenant from one of the comparison cities, the outside of Los Angeles version of the interview schedule was asked and that household was added to the comparison sample of 468 tenant households not under rent-control.





## EXHIBIT A-1

## Summary of Results of Telephone Calls in the Los Angeles Tenants Sample

---

<u>Result of Call</u>	<u>Frequency</u>
<hr/>	
Total Number of Calls	22,314
No Contact (Disconnected, not assigned, or no answer after four calls)	11,445
Contacted, but refused before screening	3,881
Survived all screens, but refused interview	588
Completed Interview	2,682

---



# EXHIBIT A-2

Sampling Errors and 90 and 95 Percent Confidence Intervals for Selected Percentages Appearing in a Sample of 2,682 Cases.

<u>Percent in Sample</u>	<u>Sampling Error</u>	<u>Confidence Interval</u>
<hr/>		
<u>90% Confidence</u>		
90	.01	89 to 91%
75	.01	74 to 76%
50	.02	48 to 52%
25	.01	24 to 26%
10	.01	9 to 11%
 <u>95% Confidence</u>		
90	.01	89 to 91%
75	.02	73 to 77%
50	.02	48 to 52%
25	.02	23 to 27%
10	.01	9 to 11%
<hr/>		





## ANALYSIS OF THE TENANTS WITHOUT TELEPHONES

An Area Sample of 50 tenant households in those Los Angeles Census Tracts with the highest concentrations of households not having telephones was also conducted. This sample size is large enough to detect differences if they exist. Sample size does not affect generalizability but does affect statistical significance and sampling error. As sample size increases the standard error of the mean decreases, which makes it easier to have statistical significance for small differences. When a survey deals with measurements that are relatively unreliable (which is not largely the case here, but is with psychometric or opinion questions) there should be 50 respondents for every independent variable used in a multiple regression equation. (See F.N. Kerlinger & E.J. Pedhaznr, Multiple Regression in the Behavior Sciences) 1973. Since this analysis had only one independent variable --the presence or absence of a telephone -- the sample size of fifty is quite adequate. This sample was drawn and interviewed in order to estimate the effects of excluding households without telephones from the Random Telephone Sample of Tenants which is the primary vehicle for estimating the effects of rent control upon tenants in this study. If significant differences were found between the households with telephones and those without telephones in the Area Sample, then weights would have to be devised to correct for the omission of non-telephone households in this Area Sample.

The Area Sample was drawn on the basis of geographic location from the census tracts with the highest number and percentage of tenants without telephones without regard to whether the household drawn for the sample had a telephone. At the end of the interview, the respondent was asked if he/she had a telephone and this was recorded on the interview schedule. Interviewers were told that only two surveys could be conducted in each building, one of a tenant with a telephone and one of a tenant without a telephone so that 25 from each group were interviewed. The questionnaire used in this Area Sample was identical in every way to the schedule used in the Random Telephone Sample except for this last question. All tenants in the Area Sample were interviewed in person. All interviewers were bilingual in English and Spanish. Thus, differences between those households with telephones and those without cannot be attributed to differences in the questionnaires.

The characteristics of telephone and non-telephone households in the Area Sample are described below.

### Household Characteristics

Because both telephone households and non-telephone households in the Area Sample were drawn from the same Census Tracts, household characteristics were controlled to some extent



by the nature of the sample. However, to check to see if there were still background differences between telephone and non-telephone households, the first analysis compared the two types of households on a set of demographic and dwelling characteristics. The factors considered in this analysis were total household income (1983), race or ethnicity, gender of the head of the household, age of the head of household, number of persons in the household, tenure or length of residence in the dwelling unit, number of dwelling units in the building or apartment complex and number of rooms in the dwelling unit.

As shown in Exhibit A-3, households with and without telephones did not differ significantly on any of these characteristics. The differences shown in Exhibit A-3 are very small and the probabilities that the differences occurred by chance are relatively large. Statisticians usually require that the probability of a chance difference be less than .05 before deciding that the difference is statistically significant. Even using a probability of .10 for statistical significance did not make any of these differences statistically significant. These probabilities are shown in the extreme right-hand column of Exhibit A-3.

For example, the mean income (1983) for the households with telephones is \$11,087 compared with \$12,291 for households without telephones and the probability of that difference happening by chance is .27. When median incomes are compared, there is no difference at all. Both types of households have median incomes of \$10,000.

Similarly, the mean age of the head of household with telephones is 33.2 years compared with a mean of 34 years for non-telephone households, a difference that could be attributed to chance 73 times out of 100. The median age of the heads of the two types of households is 33 in both instances.

#### Rent Characteristics

Though they have similar social and economic backgrounds, the telephone and non-telephone households might have differed in the amount spent for rent and related matters. To test this possibility, the two types of households were compared with regard to rent, year of last rent increase and the amount of their most recent rent increase.

As shown in Exhibit A-4, households with and without telephones did not differ significantly on any of these rent related factors. The mean rent for 1984 was \$288 for households with telephones compared to \$290 for households without telephones, a difference that could have occurred by chance 95 times out of 100. Of the telephone households, 29 percent experienced their most recent rent increase in 1983 or 1984 compared with 35 percent of the households without telephones. The probability of this difference happening by chance was .70. The mean amount of the most recent rent increase was \$9.70 for telephone households and





\$7.12 for non-telephone households. This difference could have resulted 49 times out of 100 times by chance which is not statistically significant.



## EXHIBIT A-3

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Household Background and Dwelling Characteristics of Tenants  
With and Without Telephones

---

Characteristics	With Telephones	Without Telephones	Probability
<hr/>			
Total Income-1983			
(Mean)	\$11,087	\$12,291	.27
(Median)	\$10,000	\$10,000	
Race/ethnicity			
(Percent Hispanic)	92	89	.32
Sex of Head of House-			
holds (Percent Female)	17	19	.38
Age of Head of House-			
hold (Mean)	33.2	34.0	.73
(Median)	33	33	
Number in Household			
(Mean)	3.8	4.5	.15
Tenure (Percent Moved			
into units since			
1983)	88	85	.18
Number of Units			
(Mean)	36.8	34.6	.77
Number of Rooms in			
Unit (Mean)	2.5	3.4	.40

---





EXHIBIT A-4

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Rent and Related Factors for Tenants With and Without  
Telephones

---

Characteristics	With Telephones	Without Telephones	Probability
Rent per month (Mean)	\$288	\$290	.95
Rent Increase (Percent of Households since 1983)	29	35	.70
Amount of Rent Increase (Mean)	\$9.70	\$7.12	.49

---



## Comparison with Tenants in the Random Sample

As a further comparison of those with and without telephones, two multiple regression analyses were run comparing the tenants without telephones with persons of similar socioeconomic status in the Random Sample. This enabled us to control simultaneously for a number of factors and then see if there was a difference between the two types of households.

In the first regression, the rent per month was the dependent variable and the control variables were Hispanic ethnicity, number of units in the building, income, number of rooms in the unit and number of persons in the household. With these controls, the telephone/no telephone variable was not statistically significant ( $p=.17$ ) in explaining rent levels.

In the second regression, the dollar amount of rent increase was the dependent variable. The control variables were the same as in the first regression. With these controls, the telephone/no telephone variable was not statistically significant ( $p=.19$ ).

## Conclusion

These analyses reveal no evidence that the telephone and non-telephone households differed significantly from one another on either housing and background characteristics or on rent related factors. For each of the comparisons between tenants with and without telephones, the difference was small and well within what could have been expected on the basis of chance alone.



## SAMPLING DESIGN AND METHODS FOR THE LOS ANGELES LANDLORD SAMPLE

The design of the landlord survey was a two stage probability sample. The first stage was drawn by an Equal Probability Selection Method (EPSEM) and the second stage was drawn by a close approximation to EPSEM. The sample was randomly drawn without replacement in three replications using the same probability sampling methods. Because the Sampling Fraction is very small, corrections for sampling from a finite universe without replacement are not required.

### Sampling Frame

The target population for this sample was all rent stabilized property inside the City of Los Angeles. Hence, the sampling frame was the list of all rent stabilized properties registered with the City's Rent Stabilization Division on microfiche, printed off the City's computer tape of rent stabilized properties as of September 28, 1984.

The Account File microfiche consisted of 62 separate microfiche with 208 "pages" on each microfiche (13 rows lettered B through N and 16 columns numbered 1 through 16). One of the pages on each microfiche (N-16) had a table of contents for the microfiche. Hence, on the first 61 microfiche there were 207 pages of data giving the addresses of the rent stabilized properties and the names and addresses of the person to be contacted about the property, as well as the number of units under the Rent Stabilization Program in a given year. The last microfiche (number 62) had only 163 pages.

After examining the sampling frame for periodicity and finding no evidence of any, it was determined that a two stage sampling process using a random number table at each stage would produce a Probability Sample from which one could generalize to the entire population of rent stabilized properties. A Probability Sample is one in which each and every element in the sample is selected by a chance mechanism and each element in the population has a known, non-zero chance of appearing in the sample.

A random sample of 100 pages was drawn and examined. On each page was the location and ownership/management information for zero to eight rent stabilized properties. The distribution of properties per page was not uniform and did not follow any obvious pattern. The distribution of properties per page in the sample of 100 pages is shown in Exhibit A-5. As can be seen in Table 5, 90 percent of the pages had between three and six properties. One page (hence one percent) had no properties that were rent stabilized in 1984, though it had some listed that had been stabilized in earlier years. Two pages had eight properties that were rent stabilized in 1984. No pages in this sample of 100 had more than eight rent controlled properties listed.





Hence, for the first replication it was decided to use a two stage sampling design, stratifying by rows (insuring that every row on every microfiche, except the last one, would have one page in the sample) and treating the pages as Primary Sampling Units (PSUs) for the first stage with the properties on the randomly selected pages serving as the final or Ultimate Sampling Units (USUs).

### First Stage Sampling of PSUs

Beginning with row B and using a random number table (Cambridge University Elementary Statistical Tables, 1958), a random number between 1 and 16 was selected for each row. Had a non-data page been selected (N-16 or one of the blank pages on the last microfiche) it would have been kept in the sample in order to maintain the EPSEM (Equal Probability Selection Method) quality of the first stage. As a matter of fact, N-16 was not selected in any of the three replications (see below), though some of the blank pages on the last microfiche were selected.

Thus the first stage PSUs were selected by EPSEM with the probability of selection being .0625 for each PSU. This probability will be referred to below as  $P(A)$ .

### Second Stage Sampling

All of those drawing the sample had graduate degrees in the social sciences and were familiar with how to use random number tables to select samples.

It would have been inefficient to use a pure EPSEM method for drawing the second stage elements because the different numbers of properties on a page would have required the listing of all properties on the selected pages and then using a random selection method to choose from those many thousands of properties. Instead, an approximation to the EPSEM was used. Because 80 percent of the pages had 3 to 5 properties, the persons drawing the sample were instructed to use the following procedure:



## EXHIBIT A-5

Distribution of Number of Rent Stabilized Properties per Page in  
a Random Sample of 100 Pages

<u>Number of Properties per page</u>	<u>Frequency</u>
0	1
1	5
2	16
4	39
5	24
6	11
7	2
8	2



For each of the randomly selected PSUs, those drawing the sample were instructed to count the number of properties under rent stabilization in 1984 on a given page. If there were no rent controlled properties, the samplers were instructed to ignore that page and continue to the next PSU on the list. If only one property appeared on the page, the samplers were to record its data on the sample list. If there were two properties, the samplers were instructed to use the random number table to choose a number between 1 and 2 (odd was one, even was two) and record the property selected. If three properties were on the page, the samplers were to select a random number between one and three and record the property selected by the random number. (If the random number was 1, they selected the first property. If a 2, they chose the second property and so forth). If four properties were listed, the samplers continued down the random number table until a random number between 1 and 4 was encountered. If there were five rent stabilized properties, the samplers chose a random number between 1 and 5. However, if there were 6 or more properties on the page, the samplers were instructed to choose two random numbers in the range 1 through 6, 1 through 7 and so forth. Thus, if there were five rent stabilized properties or less, one property was randomly chosen in that PSU. If there were six or more, two properties were randomly selected.

Those drawing the sample were instructed to note any pages with more than eight rent stabilized properties and to report them to me so that the design for the USU stage could be changed if this happened very often. No PSUs (pages) with more than eight rent stabilized properties were encountered during the drawing of the three replications of the sample.

### Selection Probabilites

The first stage sampling method was EPSEM with P (A) of .0625. Though the second stage was also a probability sampling procedure, it could only be an approximation to EPSEM because of the variation in the number of properties across PSUs. Thus it is useful to examine the distribution of selection probabilities derived from the Selection Equation:

$$P(B) = P(A) \times P(B|A)$$

Where P(B) is the selection probability for a given USU, P(A) is the probability of selecting a given PSU (in this case .0625) and P(B|A) is the conditional probability of B given that its PSU was randomly selected.

As shown in Exhibit A-6, the selection probabilities for the USUs ranged from .013 for pages with 4 and 8 properties to .063 for pages with just 1 property. Assuming that the distribution of properties per page (USUs per PSU) is as shown in Exhibit A-5,





94 percent of the properties in the sample had selection probabilities between .013 and .021, a very narrow range of less than one percent(.008). Hence, the procedure produced a probability sample which was a good approximation to EPSEM for the entire design and weighting for the different selection probabilities was not be required.



## EXHIBIT A-6

Selection Probabilities as a Function of Number of Rent  
Stabilized Properties (USU) per Page (PSU)

---

<u>Number per Page</u>	<u>Selection Probability</u>
1	.063
2	.031
3	.021
4	.016
5	.013
6	.021
7	.018
8	.016

---



## Replications

For the first replication, all 62 microfiche were thoroughly shuffled and then 13 PSUs per microfiche were selected in the two stage procedure described above. This insured that the entire list of rent stabilized properties was covered and the order of the property on the sample list was determined by chance. Hence, properties near the end of the RSD list were as likely as properties in the beginning or the middle to be contacted first by Arthur Young & Company.

The first sample had 1287 properties selected at random for contact. When these properties did not produce the target sample size of 500 properties, a second replication was drawn. A replication is a second sample, drawn in the same manner as the first sample, but independently of it.

The second replication was drawn in the same manner as the first except that a new set of PSUs and USUs were selected randomly and half of the microfiche were randomly selected using 31 random numbers between 1 and 62. This second replication added 573 properties to the sample.

When a third replication was required, a third set of PSUs and USUs was drawn and half of the microfiche were again randomly selected using 31 random numbers between 1 and 62. This procedure produced a replication of 705 properties.

The probability of the same property being selected in two (or three) replications was quite low. For example, the probability of a property being selected twice ranged from .0005 for properties on a five property PSU to .011 for properties on a one property page. Whenever this happened, the property was dropped from the second or third replication.

## Response Rates

Across the three replications, 2,215 properties were selected. Of these, 15 were eliminated because they fell outside the boundaries of the City of Los Angeles. For the first 1,514 cases, interviewers called each landlord until a disposition was reached. Calls were made during the day, in the evenings, and on weekends. A disposition consisted of the following:





- No Number available
- Wrong number-
- Case was called four times; a supervisor called and no contact was made

Ten percent of these initial calls were monitored by two supervisors.

The following results were acheived after the first 10, 100 and 200 calls for the Los Angeles landlord survey:

	<u>10 calls</u>	<u>100 calls</u>	<u>200 calls</u>
Agree	8 (80%)	74 (74%)	140 (70%)
Refuse	2 (20%)	26 (26%)	60 (30%)

As of November 1, 1984, 1,287 properties had been drawn from the RSD list. Of the 1,287, 7 were outside Los Angeles. Of the remaining 1,280:

Refused at Outset	206
Accepted at Outset	686
No phone number	278
4 Calls/No contact	110
Total	1,280

Despite the fact that the expectation was that persons who had not been contacted at the outset were unlikely to respond, all cases whose disposition was No Phone or No Contact were sent questionnaires. Follow up calls on accept and on no contact dispositions were then made by interviewers, with these calls being monitored on a random basis.

As of November 16, the status of the responses from these mailings was as follows:

	Refused	Landlord Reports	No Contact	Completed	Total
Accepted/ Send	233	179	288	56	686
No Phone/ Send	13	0	262	3	278
4 Calls/ Send	2	5	103	0	110
Total	238	184	593	59	1,074



An additional 303 properties were then drawn from the RSD list, one of which was located outside the City of Los Angeles. As of December 10, 1984 the status of all replies was as follows:

	Refused	Work in Progress	No Contact	Completed	Total
Refused/ at Outset	262	0	0	0	262
Accepted/ Send	395	148	178	103	826
No Phone/ Send	27	0	312	8	347
4 Calls/ Send	31	12	100	4	147
Total	715	160	590	115	1582

On December 11, an additional 975 properties were drawn from the RSO list of which 7 were properties outside Los Angeles. Because of the approach of the Christmas holidays it became more difficult to contact landlords by telephone, or to rely on the mails to deliver surveys promptly to those who had agreed to participate. A decision was made to mail surveys to contacting landlords and to follow up the mailing with a telephone explanation of the purposes of the study. These cases are referred to below as "cold send". Thus as of January 2, the status of the landlord survey was as follows:

	Refused	Work in Progress	No Contact	Completed	Total
Refused at/ Outset	336	0	0	0	336
Accepted/ Send	487	190	159	143	979
No Phone/ Send	30	0	477	11	518
4 Calls+ ColdSend	108	103	484	22	717
Total	961	293	1,120	176	2550

The Section which follows indicates that landlords who responded when the second procedure was used do not differ significantly from those who were contacted by phone first.



Status of the landlords survey was:

	Refused	Work in Progress	No Contact	Completed	Total
Refused at Outset	336	0	0	0	336
Accepted/Send	613	115	66	183	977
No Phone/Send	36	0	516	12	564
4 Calls+Cold Send	430	81	96	67	674
Total	1415	203	678	262	2550

The 262 respondents represent 14% of those contacted. If non-responding was due to idiosyncratic or chance factors, the final sample of 262 would still be representative and unbiased. However, if systematic factors such as membership in a particular landlord association, or the size of the property were involved in decisions not to respond, then the sample which did respond might be unrepresentative of the universe of all landlords.

The Consultant proposed to RSD that additional funds be spent to randomly select a sample of the non-responders and that they be offered a strong enough incentive to persuade them to fill in the questionnaire and tell an interviewer why they did not respond in the first place. However, RSD concluded that given the ability of the Consultant to compare the 262 property sample with data from several secondary sources, this additional expenditures of funds was not justified.

#### Additional Cleaning of Data

All returned questionnaires were reviewed for reasonableness and completeness by a supervisor. Apartment owners who returned incomplete questionnaires or who gave answers that appeared to be contradictory were recalled and asked to complete or recheck the questionnaire. Over 40% of the returned questionnaires were subjected to follow up calls.

In addition, all property tax data was cross checked against the records in the Los Angeles County Assessors Office and landlords who reported different property tax amounts than those showing on the tax roll for the property were recalled. In the final analysis however, the landlords' rather than the Assessor's file record for the property tax payment made was used.





The Urban Institute then subjected the data further through a variety of statistical checks. Sixty responses were ultimately dropped from the analysis. Roughly one third of these lacked expense or income data for 1983. Another third of these reported an inappropriate 1983 bookkeeping period.

### Random Sampling Error

In repeated samples of the same size, a given sample statistic will take on different values across the various samples. That is, it will have a sampling distribution. The standard deviation of the values in the sampling distribution (called the Standard Error of of the statistic) can be calculated using the Central Limit Theorem which is the fundamental theorem of applied statistical analysis.

The Standard Error, weighted by a confidence factor (say 90 percent or 95 percent confidence) establishes the Sampling Error for any given sample size. This Sampling Error can be used to compute the Confidence Interval--the range of values above and below the obtained statistic in which we can have a specified level of confidence that the population parameter resides for that statistic. In this case, because the Sampling Fraction (the ratio of sample size to population size) is very small (less than one percent), the Sampling Error is virtually independent of population size and will not require a correction for sampling without replacement.

Exhibit A-7 summarizes the size of the Sampling Error for selected percentages in the sample for 90 and 95 percent levels of confidence. These ranges are the 90 percent and 95 percent Confidence Intervals for selected percentages in a sample of 262 properties. For example, if the percent in the sample is 75, the analyst can be 90 percent confident that the population parameter will fall between 71 and 79 percent.



# EXHIBIT A-7

Sampling Errors and 90 and 95 Percent Confidence Intervals  
for Selected Percentages Appearing in a Sample of 262 Cases

<u>Percent in Sample</u>	<u>Sampling Error</u>	<u>Confidence Interval</u>
<u>90% Confidence</u>		
90	.03	87 to 93%
75	.04	71 to 79%
50	.05	45 to 55%
25	.04	21 to 29%
10	.03	7 to 13%
<u>95% Confidence</u>		
90	.04	86 to 94%
75	.05	70 to 80%
50	.06	44 to 56%
25	.05	20 to 30%
10	.04	6 to 14%



## COMPARISON OF TWO WAVES OF LANDLORD RESPONDENTS

As indicated above, on December 12, 1984, Arthur Young & Co. changed its method of contacting landlords in the sample. Though the method of sampling remained the same, before December 12, the landlords of properties in the sample were contacted by phone first and then the questionnaire was mailed to those agreeing to participate. On December 12 and thereafter, the questionnaires were mailed to all of the landlords of properties in the sample without prior telephone contact and then phone calls were made to those not responding immediately to the letter. It is conceivable that the change of method of contact could have altered the nature of the landlords responding and their properties. This is a summary of analyses of potential differences between these two groups, here labelled Wave 1 and Wave 2 of the sample of Landlords of properties inside the City of Los Angeles. The analyses summarized here showed that the change in procedure did not change the pattern of response. On the important variables that were analyzed, there were no significant differences between Wave 1 (prior to December 12, 1985) and Wave 2 (December 12 and after).

### Labor Market Planning Area

The first analysis examined the potential differences in the geographical distribution of the properties in the sample as indicated by the Labor Market Planning Area (LMPA) of the property. A cross-tabulation of Wave and LMPA revealed a statistically non-significant difference between the two waves. The probability of difference by chance was .40. That is 40 times out of 100 any differences in the LMPA distribution could have occurred by chance alone. This .40 probability of a Type I error is well above the accepted standard .05 for statistical significance. For example, 58.2 percent of the Wave 1 responses were for properties in LMPAs 1, 2 and 3 compared with 57.6 percent of the properties in Wave 2.

### Number of Units per Property

To examine the potential differences in property size, the total number of units per property were divided into those from two to five, six to 11 and 12 and over. This variable was cross-tabulated with Waves and the resulting contingency table showed a statistically non-significant relationship between size of property and wave. The difference between the two waves could have happened by chance 29 times out of 100 which, again, is well above the .05 standard for statistical significance. For example, 54.3 percent of the Wave 1 properties had two to five units as compared with 60.0 percent of the Wave 2 properties.



When the raw (ungrouped) number of units per property was considered, the results were the same as when they were grouped into three categories. The mean number of units was 11.0 in Wave 1 compared with a mean of 11.9 for Wave 2. The probability of this difference occurring by chance was .86 . The median number of units per property in Wave 1 was 4.0 and it was also 4.0 for Wave 2. Thus, there was no difference between the two Waves by either measure.

#### Income, Costs and Net Income

The next analysis compared the Total Income from the property in 1977 and 1983, the Total Operating Costs for the property in 1977 and 1983 and the Net Income (Total Income minus Total Operating Costs) for 1977 and 1983 across the two waves. As shown in Exhibit A-8, not one of these comparisons was statistically significant for either mean amounts or median amounts.

For example, the average or mean Net Income for the Wave 1 properties for 1983 was \$14,382 as compared with a mean Net Income for Wave 2 for 1983 of \$18,941, a difference that could have happened by chance 45 times out of 100. For median Net Income, the 1983 difference across waves was even smaller. The Wave 1 median Net Income was \$8199 and the Wave 2 median Net Income was \$8298, a difference that could have happened by chance 99.9 times out of 100.

#### Refinancing

Four factors related to refinancing were analyzed: the percent of each Wave with a second mortgage, the nature of the interest rate (fixed versus variable) for those having a second mortgage, the mean amount of the second mortgage and the median amount of the second mortgage for those having a second mortgage. As shown in Exhibit A-9, not one of these Wave 1/Wave 2 differences was statistically significant.

For example, 19.5 percent of the Wave 1 landlords reported a second mortgage on the sampled property and 18.9 percent of the Wave 2 landlords reported a second mortgage. This difference could have happened 99 times out of 100 by chance. Similarly, the median amount of the second mortgage for the Wave 1 properties was \$31,500 compared with a median of \$24,000 for the Wave 2 properties. This could have happened by chance 99 times out of 100 as well.

#### Conclusion

On the basis of these analysis, it is hard to escape the conclusion that the change in method of contacting landlords while maintaining the same sampling procedure did not result in a bias one way or the other for the properties being examined.





## EXHIBIT A-8

OPERATING COSTS AND INCOME BY WAVE FOR 1977 AND 1983

<u>Measure, Factor, Year</u>	Wave 1	Wave 2	<u>Probability of Error</u>
Mean, Operating Costs 1983	\$11,212	\$19,636	.31
Mean, Total Income 1983	\$25,290	\$71,574	.21
Mean, Net Income, 1983	\$14,381	\$18,941	.45
Median, Operating Costs 1983	\$5,402	\$5,892	.99
Median, Total Income, 1983	\$13,885	\$15,139	.66
Median, Net Income, 1983	\$8,199	\$8,298	.99
Mean, Operating Costs, 1977	\$7,233	\$15,165	.30
Mean, Total Income, 1977	\$14,946	\$30,014	.26
Mean, Net Income, 1977	\$7,997	\$14,490	.36
Median, Operating costs, 1977	\$3,313	\$4,822	.15
Median, Operating Costs, 1977	\$6,805	\$8,885	.59
Median, Net Income, 1977	\$3,433	\$8,298	.96



## EXHIBIT A-9

CURRENT REFINANCING DATA BY WAVE

<u>Refinancing Factor</u>	<u>Wave 1</u>	<u>Wave 2</u>	<u>Probability of Error</u>
Percent with second mortgage	19.5	18.3	.99
Percent with Fixed Interest Rate Mortgage*	19.4	27.3	.90
Mean Amount of Second Mortgage*	\$68,363	\$48,573	.41
Median Amount of Second Mortgage*	\$31,500	\$24,000	.99

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\* Only for those with a second mortgage



## SAMPLING DESIGN FOR PROPERTIES OUTSIDE LOS ANGELES

This is a two stage equal probability sample using systematic sampling with a random start for the first stage and simple random sampling for the second stage. The sampling frame for properties was:

-- For buildings with more than 5 units - Directory of Valley Apartment Owners (September 1, 1984 through August 31, 1985) and Directory of South Bay Apartment Owners (July 1, 1984 through July 1, 1985)

-- For properties with under 5 units, the County Assessor's records were sorted by Data Quick Systems into unit size types and microfiche records were provided by them for all small properties.

The Primary Sampling Units (PSU's) were the pages in the guide or the microfiche records. For each city, the number of pages devoted to property in that city were counted and divided by the number of properties for that city required for the sample. The resulting quotient was rounded to the nearest whole number. This was the Sampling Interval (SI) for that city. Using a random number table, a number between 1 and SI was chosen. This was the Starting Number (SN) for that city. Each city had a different SI and SN. Pages in the directories or microfiche containing each uncontrolled city's listings were sequentially ordered where an appropriate listing was identified. The sampler turned to that page and counted the properties on that page. He returned to the random number table and chose another random number between one and the number of properties on the page. If the random number was three, then the third property was chosen. If the random number was five, then the fifth property went into the sample and so forth.

To choose the next PSU, the SI was added to the random starting number and the sampler counted over the required number of pages. On that page, the number of properties were counted and another random number between one and the number of properties was chosen. This process was repeated for each PSU and each city. Hence each PSU in each city had a known and equal chance of being selected. Thus, all of the requirements of a random sample were met for the properties in the directories.

For the 2-4 Unit Buildings it was found that the unit category percentages (2-5 units) were as follows:





Unit Size	Number of Units	Percentages
2	13,631	35%
3	8,982	23
4	12,802	33
Total	39,121	100 (59%)

Using the Los Angeles County Assessor's Map Book Numbers (Thomas Brothers Maps - Commercial Street Atlas, Assessor's Edition, 1984), those map book numbers which applied to the comparison cities (Long Beach, Inglewood, Torrance, Pasadena, Glendale and Burbank) were identified.

Each city's map book numbers were arranged in sequential order beginning with 1. Using a random number table, a sample of map book pages was selected. If a given map book page contained appropriate listings, the number of listings on the page was totalled, a sequential number was assigned to each listing, and using a random number table, an appropriate entry was randomly selected. The map book and entry were then retrieved from the Data Quick microfiche.

#### SAMPLING DESIGN FOR MOBILE HOME PARK OWNER/OPERATORS SURVEY

The Housing Division of the Community Development Department of the State of California (HCD) maintains a list of Mobile Home Parks under their jurisdiction. A complete list was obtained of parks as of March 6, 1984, the most recent available list, and an effort was made to obtain the responses of each of the permittees on the list whose parks were actually in the City of Los Angeles. There were 68 such parks listed.

#### SAMPLING DESIGN FOR MOBILE HOME PARK TENANTS SURVEY

Given that the addresses of all mobile home parks were known, a complete listing of tenants in parks was developed through the use of reverse telephone directories, which list the names and telephone numbers of residents located at particular addresses. From the universe of park tenants, a random sample of names and phone numbers of mobile home park tenants was generated using a table of random numbers.



APPENDIX B

ESTIMATING THE MONETARY BENEFITS  
OF RENT STABILIZATION

Two different procedures were used to estimate the monetary benefits of rent control. The first assumed that, absent stabilization, rents in Los Angeles would have risen by the same (proportional amount) as rents in surrounding areas. We have called the rents derived from this assumption the "imputed" rents. The second approach assumed that recent movers are currently paying the rents that would exist in the absence of stabilization. The rents implied by this assumption have been called "market" rents.

Calculating Imputed Rents

The derivation of imputed rents involved three discrete steps. We began by using the 1977 Annual Housing Survey to estimate a hedonic rent equation for the Los Angeles SMSA in 1977. This regression related each unit's rent to a series of variables describing its physical characteristics, its location, and the household's length of tenure. The results of the analysis are presented in Exhibit B-1.

Parameters from the 1977 regression were then used to predict the average rent for the uncontrolled (i.e., non-Los Angeles) units in the 1984 survey. In other words, what the average 1984 unit would have rented for in 1977. The rate of inflation in the uncontrolled sector was then estimated by taking the ratio of actual to predicted rents. Finally, this ratio (2.26) was used to inflate the predicted rents of each 1984 Los Angeles tenant (again using the 1977 hedonic equation).



## EXHIBIT B-1

## Regression Used to Calculate Imputed Rents: 1977

Dependent Variable: Gross Rent

 $R^2$ : .555

<u>Variable</u>	<u>Coefficient</u>	<u>Standard Error</u>
Intercept	185.61	5.48***
Abandoned/boarded up buildings in neighborhood <sup>a</sup>	-5.81	7.29
Trash present in neighborhood <sup>a</sup>	-3.70	3.89*
Neighborhood rated "excellent" or "good"	16.12	1.83***
Duplex	5.27	3.11*
Lowrise	6.67	2.37***
Highrise	40.04	4.56***
Two rooms in unit	25.07	4.69***
Three rooms	52.54	4.41***
Four rooms	76.11	4.59***
Five rooms	114.52	5.32***
Six or more rooms	116.30	8.61***
Perceived in need of repair	-11.54	3.37***
Located within Los Angeles	7.97	1.75***
More than one full bath	63.09	2.73***
Owner resides in building	-6.60	2.41***
Age of building	-1.97	.08***
Length of tenure		
one to two years	-8.22	2.25***
two to three years	-15.25	2.78***
three to four years	-18.83	3.42***
four to five years	-15.63	4.11***
five to six years	-23.58	4.87***
six years and longer	-28.38	2.61***
Hispanic	-22.55	2.24***
Black	-32.63	2.74***

a Condition bothers resident so much that he would like to move.

\*\*\* Statistically significant at 99% confidence level.

\* Statistically significant at 90% confidence level.



# EXHIBIT B-2

## Regression Used to Calculate Market Rents: 1977 (Los Angeles Only)

Dependent Variable: Log Gross Rent

R<sup>2</sup>: .626

<u>Variable</u>	<u>Coefficient</u>	<u>Standard Error</u>
Intercept	5.154	.031***
Abandoned/boarded up buildings in neighborhood <sup>a</sup>	-.127	.051**
Trash present in neighborhood <sup>a</sup>	.021	.024
Neighborhood rated "excellent" or "good"	.068	.011***
Duplex	.009	.020
Lowrise	.041	.016***
Highrise	.120	.024***
Two rooms in unit	.194	.025***
Three rooms	.386	.024***
Four rooms	.515	.025***
Five rooms	.679	.030***
Six or more rooms	.876	.053***
Perceived in need of repair	-.087	.018***
More than one full bath	.195	.017***
Owner resides in building	-.025	.015*
Age of building	-.011	.000***
Length of tenure		
one to two years	-.024	.014*
two to three years	-.070	.017***
three to four years	-.084	.021***
four to five years	-.084	.024***
five to six years	-.080	.030***
six years and longer	-.157	.015***
Hispanic	-.134	.014***
Black	-.198	.015***

a Condition bothers resident so much that he would like to move.

\*\*\* Statistically significant at 99% confidence level.

\*\* Statistically significant at 95% confidence level.

\* Statistically significant at 90% confidence level.





## EXHIBIT B-3

Regression Used to Calculate  
Market Rents: 1984 (Los Angeles Only)

Dependent Variable: Gross Rent

 $R^2$ : .454

<u>Variable</u>	<u>Coefficient</u>	<u>Standard Error</u>
Intercept	414.92	19.83***
Abandoned/boarded up buildings in neighborhood <sup>a</sup>	5.21	16.35
Trash present in neighborhood <sup>a</sup>	1.92	11.25
Neighborhood rated "excellent" or "good"	22.96	7.78***
Duplex	-11.76	14.60
Lowrise	12.82	9.70
Highrise	47.49	15.64***
Two rooms in unit	54.59	15.57***
Three rooms	68.40	14.21***
Four rooms	121.32	14.75***
Five rooms	167.47	17.18***
Six or more rooms	284.13	22.14***
Perceived in need of repair	-17.18	10.17*
More than one full bath	156.74	10.60***
Owner resides in building	2.95	9.75
Age of building	-1.38	.28***
Length of tenure		
one to two years	3.51	12.39
two to three years	-20.00	13.72
three to four years	-49.43	14.58***
four to five years	-60.73	15.77***
five to six years	-41.57	16.72**
six years and longer	-128.15	10.08***
Hispanic	-59.12	10.40***
Black	-65.96	9.30***

---

a Condition bothers resident so much that he would like to move.

\*\*\* Statistically significant at 99% confidence level.

\*\* Statistically significant at 95% confidence level.

\* Statistically significant at 90% confidence level.



Differences between the resulting "imputed" rents and actual housing costs were used to estimate the benefits (costs) of rent control.

Note that the rate of inflation derived from these procedures -- which control for shifts in the underlying quality of dwelling units -- is somewhat higher than the rate suggested by a simple comparison of means. Average rents in uncontrolled areas increased by about 11 percent per year; our ratio estimate suggests an annual rate of about 11.5 percent.

#### Calculating Market Rents

Market rents were derived by constructing two separate hedonics, both of which were restricted to units inside Los Angeles. The first was based on the 1977 Annual Housing Survey data and reflects the structure of rents prior to the imposition of rent control. This regression is presented in Exhibit B-2. The second regression employed identical independent variables, but was estimated from the 1984 tenant survey. This regression is presented in Exhibit B-3.

Market values were derived by using a combination of parameters from the 1984 and 1977 hedonics. In particular, we used the tenure discounts that were estimated from the 1977 equation in combination with other parameters derived from the 1984 regression. Thus, we assumed that recent movers were unaffected by rent control and that, in its absence, other renters would have received a tenure discount comparable to the one existing immediately prior to the imposition of rent control.

To insure that average predicted and actual rents were equal for recent movers, we used a linear model for 1984 regression. However, we



used a semilog equation in 1977. Thus, in estimating market rents, we assumed that the same proportional discounts would have occurred in the absence of rent control, but we allowed the dollar value of these discounts to increase with inflation.





# APPENDIX C

## ANNUAL BENEFITS FROM RENT STABILIZATION BY RACE (in Millions of Dollars)

	<u>Whites</u>		<u>Blacks</u>		<u>Hispanics</u>		<u>Other</u>	
	<u>#1</u>	<u>#2</u>	<u>#1</u>	<u>#2</u>	<u>#1</u>	<u>#2</u>	<u>#1</u>	<u>#2</u>
<u>Income</u>								
Under \$10,000	\$19.04	32.07	82.62	17.78	.01	13.36	2.58	3.66
\$10,000-20,000	\$49.42	66.28	-94.41	10.17	-.22	8.90	1.50	4.57
\$20,000-30,000	\$18.01	17.26	-22.03	1.78	-.32	-2.14	4.24	4.51
\$30,000 +	\$-51.50	-69.07	-97.37	-5.24	-.33	1.71	-.13	.40
<u>Age of Head</u>								
Under 30	\$-9.10	-2.98	.53	7.22	-.86	5.88	1.95	2.28
30-61	\$11.94	13.27	-4.07	10.68	.60	13.66	6.19	9.66
62 and older	\$32.13	36.25	2.22	6.58	-.60	2.29	.07	1.20

#1 = Imputed Rent

#2 = Market Rent



# APPENDIX D

## ANNUAL SAMPLE SIZES, 1970-1984: PROPERTY SALES DATA

	<u>Inside L.A.</u>	<u>Outside L.A.</u>
1970	300	102
1971	300	102
1972	300	102
1973	300	102
1974	300	102
1975	299	102
1976	296	102
1977	925	477
1978	3,280	1,715
1979	2,849	1,446
1980	1,285	562
1981	792	320
1982	320	108
1983	1,197	518
1984	384	162



## APPENDIX E

### METHODOLOGY FOR ESTIMATING PROTOTYPE VALUES, REVENUES, AND OPERATING COSTS: 1970-1984

Eight property characteristics were included in the value, revenue, and operating cost regressions:

HEATYN	building heated	yes or no
ACYN	building air conditioned	yes or no
BC611	building has 6-11 apartments	yes or no
BCGE12	building has 12+ apartments	yes or no
LOTSZUN	lot size per unit	square feet
AREAUN	average unit size	square feet
BLDGAGE	building age at time of sale	years
LA	building located inside LA	yes or no

Exhibit E-1 presents the regression results, including estimated coefficients, standard errors, and  $R^2$  statistics.

The two prototype properties employed in this analysis were defined as follows:

	<u>Small Property</u>	<u>Large Property</u>
HEATYN	yes	yes
ACYN	no	yes
BC611	no	no
BCGE12	no	yes
LOTSZUN	2300	800
AREAUN	770	700
BLDGAGE	40	15

These represent average attributes for small (less than 6 units) and large (12 or more units) properties respectively. Since the rate-of-return results did not prove to differ by property type, we did not experiment with additional prototypes. Exhibit E-2 presents the annual value (V), revenue (OC), and revenue (R) estimates for each of these two prototypes, inside and outside L.A. These estimates were generated by



EXHIBIT E-1  
ANNUAL VALUE, REVENUE, AND OPERATING COST  
REGRESSIONS: 1970-1984

	INTERCEPT	HEATYN	ACYM	BC611	BCGE12	LOTSZUM	AREAUM	BLDGAGE	LA	R <sup>2</sup>
<u>1970</u>										
Value	4173 (2770)	-75 (2696)	-321 (548)	228 (567)	168 (692)	0.438 (0.177)	10 (0.70)	-87 (13)	-516 (331)	.471
Revenue	455 (728)	-3 (700)	-33 (190)	213 (224)	192 (337)	0.023 (0.049)	1.4 (0.22)	-6.8 (3.8)	-14 (101)	.154
<u>1971</u>										
Value	396 (2843)	4599 (2731)	254 (491)	-1084 (523)	-1267 (682)	0.555 (0.165)	11 (0.67)	-107 (14)	-589 (361)	.577
Revenue	1216 (718)	--	-977 (564)	198 (692)	2156 (755)	-0.070 (0.201)	1.8 (0.62)	-24 (13)	-365 (352)	.124
<u>1972</u>										
Value	4093 (2919)	-157 (2742)	-168 (664)	-2404 (654)	-2068 (992)	0.337 (0.225)	15 (0.81)	-150 (18)	123 (495)	.582
Revenue	826 (286)	89 (263)	24 (77)	78 (82)	66 (120)	0.021 (0.026)	1.3 (0.09)	-15 (2.0)	-53 (55)	.544
<u>1973</u>										
Value	4452 (2825)	1959 (2704)	-813 (642)	-2193 (627)	-3602 (900)	0.494 (0.282)	13 (0.81)	-173 (20)	576 (504)	.567
Revenue	-5386 (2936)	--	5771 (1973)	4832 (1928)	-444 (3093)	-0.513 (0.873)	2.5 (2.4)	259 (54)	-2650 (1437)	.160
<u>1974</u>										
Value	9929 (5031)	-964 (4870)	-1721 (865)	-3505 (816)	-4473 (1159)	0.322 (0.354)	14 (1)	-218 (25)	957 (668)	.505
Revenue	1870 (1144)	-2 (1098)	-133 (271)	-248 (270)	-284 (349)	0.030 (0.084)	0.76 (0.23)	-22 (7)	8 (186)	.102
<u>1975</u>										
Value	-1150 (4719)	-211 (4033)	-1088 (1648)	386 (1683)	1998 (2352)	6.5 (0.8)	13 (2)	-250 (50)	2400 (1464)	.432
<u>1976</u>										
Value	6860 (2013)	3399 (1323)	-1390 (1037)	-5384 (901)	-3716 (1419)	0.087 (0.168)	15 (1)	-145 (26)	-394 (785)	.523
Revenue	1618 (968)	469 (646)	-621 (455)	-412 (412)	1385 (604)	-0.018 (0.073)	1.1 (0.5)	-25 (12)	328 (356)	.075
<u>1977</u>										
Value	2192 (4026)	9901 (3388)	1386 (860)	-6858 (1128)	-7378 (1355)	2.1 (0.5)	18 (1.6)	-176 (34)	2461 (805)	.397
Revenue	541 (285)	496 (241)	150 (63)	-57 (81)	169 (97)	0.14 (0.04)	1.8 (0.12)	-16 (2)	32 (59)	.392
Operating Cost	95 (160)	187 (133)	88 (34)	21 (57)	114 (65)	-0.003 (0.031)	0.78 (0.08)	-1.9 (1.6)	46 (33)	.396
<u>1978</u>										
Value	4756 (2124)	7162 (1804)	1892 (587)	-7403 (646)	-9031 (791)	1.2 (0.2)	28 (1)	-227 (16)	984 (450)	.394
Revenue	1004 (136)	373 (113)	167 (41)	-164 (45)	-65 (55)	0.08 (0.01)	2.1 (0.06)	-19 (1)	-17 (32)	.385
Operating Cost	530 (112)	-92 (116)	100 (21)	-57 (30)	12 (34)	0.01 (0.02)	0.87 (0.05)	-5 (0.7)	26 (19)	.420





## EXHIBIT E-1

(Continued)

	<u>INTERCEPT</u>	<u>HEATYM</u>	<u>ACYM</u>	<u>BC611</u>	<u>BCGE12</u>	<u>LOTSZUM</u>	<u>AREAUM</u>	<u>BLDGAGE</u>	<u>LA</u>	<u>R<sup>2</sup></u>
<u>1979</u>										
Value	13121 (2091)	4813 (1572)	2062 (879)	-9932 (926)	-1193 (1176)	1.6 (0.3)	29 (1)	-241 (19)	262 (592)	.338
Revenue	1721 (143)	429 (106)	89 (62)	-179 (67)	-226 (84)	0.05 (0.02)	1.7 (0.08)	-20 (1)	-58 (42)	.239
Operating Cost	525 (16)	12 (138)	73 (39)	-31 (44)	29 (50)	0.01 (0.02)	0.71 (0.07)	-2 (1)	-18 (31)	.170
<u>1980</u>										
Value	15882 (3007)	4048 (2207)	3997 (1383)	-5357 (1497)	-5172 (2072)	3.3 (0.4)	29 (2)	-277 (26)	-4101 (818)	.358
Revenue	2287 (244)	391 (182)	462 (112)	-156 (127)	35 (175)	0.04 (0.03)	1.7 (0.13)	-23 (2)	-230 (67)	.229
Operating Cost	783 (336)	-11 (307)	82 (84)	85 (89)	128 (99)	0.02 (0.03)	0.70 (0.14)	-8 (2)	-20 (59)	.247
<u>1981</u>										
Value	22969 (3967)	1001 (3140)	7676 (1808)	-3415 (1907)	-9685 (2905)	0.6 (0.2)	35 (2)	-233 (29)	-8659 (1018)	.388
Revenue	2919 (348)	172 (278)	523 (160)	-190 (173)	-180 (264)	0.05 (0.02)	2.1 (0.18)	-26 (2.6)	-461 (91)	.280
Operating Cost	1070 (486)	-144 (368)	-99 (237)	-101 (275)	-144 (272)	-0.03 (0.02)	1.5 (0.31)	-4 (4.4)	-487 (138)	.173
<u>1982</u>										
Value	23721 (7192)	4056 (5598)	-953 (2653)	-5321 (2657)	-5297 (2819)	0.5 (0.7)	37 (4)	-316 (57)	-6182 (1939)	.437
Revenue	4800 (707)	-684 (569)	-266 (269)	-0.5 (269)	23 (284)	0 (0.07)	2.2 (0.36)	-41 (5.6)	-361 (192)	.324
Operating Cost	870 (685)	--	602 (266)	-232 (273)	-296 (274)	-0.4 (0.09)	2.3 (0.5)	-7 (6.9)	-199 (225)	.369
<u>1983</u>										
Value	19061 (3775)	5765 (2705)	2463 (1355)	-6942 (1355)	-7183 (1792)	0.3 (0.4)	41 (2)	-230 (32)	-4854 (1079)	.407
Revenue	2636 (365)	373 (266)	135 (129)	266 (134)	430 (176)	-0.1 (0.04)	2.9 (0.2)	-20 (3)	-230 (104)	.258
Operating Cost	1367 (593)	217 (520)	-22 (129)	-0.5 (118)	202 (155)	-0.1 (0.04)	0.8 (0.2)	-4 (3.5)	-162 (107)	.069
<u>1984</u>										
Value	20629 (5962)	5458 (3948)	4248 (2394)	-10810 (2564)	-11250 (3206)	2 (0.9)	41 (4)	-318 (55)	-1116 (1854)	.501
Revenue	4309 (659)	365 (459)	-178 (269)	-487 (292)	24 (369)	-0.1 (0.1)	2.3 (0.4)	-38 (6)	-240 (209)	.265
Operating Cost	1048 (468)	-62 (394)	168 (148)	-66 (153)	108 (177)	-0.1 (0.07)	0.9 (0.2)	-6 (3)	64 (110)	.221



## EXHIBIT E- 2

**Prototype Estimates of Per Unit Revenues, Operating Costs,  
and Values -- 1970-1984**

	<u>Small Property</u>						<u>Large Property</u>					
	<u>Inside L.A.</u>			<u>Outside L.A.</u>			<u>Inside L.A.</u>			<u>Outside L.A.</u>		
	<u>R</u>	<u>OC</u>	<u>V</u>	<u>R</u>	<u>OC</u>	<u>V</u>	<u>R</u>	<u>OC</u>	<u>V</u>	<u>R</u>	<u>OC</u>	<u>V</u>
1970	1263	--	9042	1277	--	9558	1461	--	9687	1476	--	10202
1971	1137	--	9846	1502	--	10435	2891	--	9918	3256	--	10507
1972	1269	--	10059	1322	--	9936	1622	--	10057	1675	--	9934
1973	3094	--	10825	5745	--	10249	2541	--	9129	5191	--	8553
1974	1662	--	12624	1654	--	11667	1689	--	10429	1681	--	9472
1975	1928	--	16069	1758	--	13669	2615	--	12638	2447	--	10238
1976	2193	--	16114	1865	--	16507	3541	--	13432	3213	--	13826
1977	2169	844	26419	2137	798	23958	2546	1043	20407	2514	997	17946
1978	2443	963	28402	2460	938	27418	2744	1121	23121	2761	1096	22137
1979	2744	1004	33955	2802	1022	34216	2916	1093	25704	2974	1110	25966
1980	2936	1016	34580	3166	1037	38682	3842	1349	33390	4072	1369	37492
1981	3314	1384	34102	3776	1870	42761	4097	1179	34561	4558	1665	43220
1982	3803	1362	38698	4164	1561	44880	4441	2225	37006	4806	2423	43188
1983	3976	1600	42983	4206	1762	47837	4978	2007	40646	5208	2169	45501
1984	4397	1306	48304	4637	1242	49420	5216	1791	43392	5456	1728	44508



substituting the two sets of prototype attributes into the annual regression equations.

Each estimate has an associated error term -- or variance -- which is determined both by the standard errors of the regression coefficients and by the variance in the underlying property attributes. Because each term on the right-hand side of this equation is a regression estimate, each has an error term -- or variance -- associated with it. In matrix notation, this error can be expressed as

$$\text{var}(Y) = P \cdot O^2 (X'X)^{-1} \cdot P',$$

where  $Y$  is the estimated value,  $P$  is a vector of property attributes,  $X'X$  is the sum of squares and cross-products from the original regression, and  $O^2$  is the estimated error variance from that regression. Similarly, the covariance of errors in Los Angeles and non-Los Angeles estimates can be expressed as

$$\text{covar}(Y_{LA}, Y_{NLA}) = P_{LA} \cdot J^2 (X'X)^{-1} \cdot P_{NLA}.$$

Assuming that covariances among error terms are small, we calculate the variance of the difference between Los Angeles and non-Los Angeles rates of return as

$$\begin{aligned} \text{var}(r_{LA} - r_{NLA}) = & (1/V_{tLA})^2 (\text{var}(R_{tLA}) + \text{var}(OC_{tLA}) + \text{var}(V_{t+1LA}) + \\ & (1/V_{tNLA})^2 (\text{var}(R_{tNLA}) + \text{var}(OC_{tNLA}) + \text{var}(V_{t+1NLA}) + \\ & ((R_{tLA} - OC_{tLA} + V_{t+1LA})/V_{tLA}^2)^2 \text{var}(V_{tLA}) + \\ & ((R_{tNLA} - OC_{tNLA} + V_{t+1NLA})/V_{tNLA}^2)^2 \text{var}(V_{tNLA}) - \\ & (2/V_{tLA} \cdot V_{tNLA})) (\text{covar}(R_{tLA}, R_{tNLA}) + \text{covar}(OC_{tLA}, OC_{tNLA}) + \\ & \text{covar}(V_{t+1LA}, V_{t+1NLA})) - \\ & 2(R_{tLA} - OC_{tLA} + V_{t+1LA})/V_{tLA}^2 ((R_{tNLA} - OC_{tNLA} + V_{t+1NLA})/V_{tNLA}^2). \end{aligned}$$





# APPENDIX F

## TAX AND FINANCING ASSUMPTIONS

	Loan to Value Ratio	Mortgage Interest Rate	Mortgage Term	Marginal Tax Rate	Capital Gains Rate	Depreciation Method	Useful Life	Depreciation Basis
1970		8.45						
1971	80%	7.74	Low 25	50% of			30	
1972		7.60	Mod 40	marginal	straight	20	years	66% of
1973		7.96	High 60	rate	line	year	(Fixed	purchase
1974		8.92					rate)	price
1975		9.00						
1976		9.00						
1977		9.02	Low 25					
1978		9.56	Mod 45	40% of				
1979		10.78	High 60	marginal				
1980		12.66		rate				
1981		14.70	Low 25					
1982		15.14	Mod 40			15		
1983		12.57	High 50			year		
1984		12.38						

Notes: Loan-to-Value Ratio average around 80 percent in our sample of property sales, although a slight trend toward smaller downpayments is discernable.

Mortgage interest rates reflect FHLBB new home mortgage yields. No multifamily loan series is available. Fixed rate, 30-year mortgages are assumed for the entire period. Marginal tax rate assumptions were obtained from key informant interviews and confirmed by a CPA.

Straight line depreciation prior to ERTA represents a rather conservative tax assumption, but accelerated depreciation methods require additional holding period and recapture assumptions. Our landlord sample indicates that the vast majority of owners use the straight-line schedule with a useful life of 20 years.

A depreciable basis equal to about 2/3 of purchase price was indicated both by assessors' data and by key informant interviews.



## APPENDIX G (a)

### ANNUAL RATES OF RETURN BY PURCHASE YEAR

After-tax returns to equity and value were calculated on an annual basis for each purchase year from 1970 to 1984. Return to equity is calculated as

$$r = ((R_t - OC_t - I_t) - tx(R_t - OC_t - I_t - D) + (V_{t+1} - V_t) - ctx(V_{t+1} - V_t + D + P_t)) / E_t,$$

while return to value is calculated as

$$r = ((R_t - OC_t) - tx(R_t - OC_t - D) + (V_{t+1} - V_t) - ctx(V_{t+1} - V_t + D)) / V_t.$$

In both expressions, variables are defined as follows:

- $R_t$  = current year's rent revenues
- $OC_t$  = current year's operating costs
- $I_t, P_t$  = current year's interest and principal payments, based on initial value and mortgage interest rate, and on years since purchase.
- $tx$  = marginal tax rate
- $D$  = depreciation amount, based on initial value and on useful life in effect at time of purchase.
- $V_t$  = current year's value
- $V_{t+1}$  = next year's value
- $ctx$  = capital gains tax rate

The tables that follow present all the annual after-tax return computations -- for the two prototype properties, inside and outside of Los Angeles, assuming high, moderate, and low tax rates.



ANNUAL RATES OF RETURN BY PURCHASE YEAR  
SMALL PROPERTIES--INSIDE L.A.--HIGH TAXES

Purchase  
Year

Returns to Equity

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
1970	0.38	0.09	0.22	0.46	0.45	0.03	0.79	0.10	0.21	0.04	0.01	0.16	0.14	0.1
1971		0.13	0.29	0.56	0.51	0.03	0.85	0.10	0.22	0.04	0.01	0.16	0.14	0.1
1972			0.34	0.62	0.54	0.04	0.88	0.10	0.22	0.04	0.01	0.17	0.14	0.1
1973				0.82	0.64	0.04	0.96	0.11	0.23	0.04	0.01	0.17	0.14	0.1
1974					1.02	0.04	1.19	0.11	0.25	0.04	0.01	0.18	0.15	0.1
1975						0.05	2.18	0.13	0.29	0.05	0.01	0.20	0.16	0.1
1976							2.30	0.14	0.29	0.05	0.01	0.20	0.16	0.1
1977								0.34	0.61	0.07	0.01	0.30	0.22	0.2
1978									0.80	0.08	0.01	0.34	0.24	0.2
1979										0.12	0.01	0.53	0.32	0.2
1980											-0.03	0.57	0.33	0.2
1981												0.52	0.31	0.2
1982													0.43	0.3
1983														0.5

Purchase  
Year

Returns to Value

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
1970	0.10	0.05	0.09	0.18	0.22	0.03	0.48	0.08	0.17	0.04	0.01	0.14	0.12	0.13
1971		0.05	0.09	0.18	0.22	0.03	0.48	0.08	0.17	0.04	0.02	0.14	0.12	0.13
1972			0.09	0.18	0.22	0.03	0.48	0.08	0.17	0.04	0.02	0.14	0.12	0.13
1973				0.18	0.22	0.03	0.48	0.08	0.17	0.04	0.02	0.14	0.12	0.13
1974					0.23	0.03	0.48	0.08	0.17	0.04	0.02	0.14	0.12	0.13
1975						0.04	0.48	0.08	0.18	0.04	0.02	0.14	0.12	0.13
1976							0.48	0.08	0.18	0.04	0.02	0.14	0.12	0.13
1977								0.09	0.18	0.04	0.02	0.14	0.13	0.13
1978									0.18	0.04	0.02	0.14	0.13	0.13
1979										0.05	0.02	0.15	0.13	0.13
1980											0.02	0.15	0.13	0.13
1981												0.15	0.13	0.14
1982													0.13	0.14
1983														0.14



ANNUAL RATES OF RETURN BY PURCHASE YEAR  
SMALL PROPERTIES--OUTSIDE L.A.--HIGH TAXES

Purchase  
Year

Returns to Equity

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
1970	0.38	-0.07	0.14	0.71	0.36	0.34	0.57	0.18	0.27	0.15	0.12	0.07	0.09	0.0
1971		-0.09	0.21	0.96	0.43	0.38	0.62	0.19	0.28	0.15	0.12	0.07	0.09	0.0
1972			0.19	0.85	0.41	0.37	0.60	0.19	0.28	0.15	0.12	0.07	0.09	0.0
1973				1.01	0.45	0.39	0.63	0.19	0.29	0.15	0.12	0.07	0.09	0.0
1974					0.67	0.49	0.73	0.20	0.30	0.16	0.13	0.07	0.10	0.0
1975						0.78	0.94	0.23	0.33	0.17	0.13	0.07	0.10	0.0
1976							1.62	0.27	0.39	0.18	0.14	0.08	0.10	0.0
1977								0.62	0.65	0.25	0.18	0.09	0.12	0.0
1978									1.01	0.31	0.21	0.10	0.13	0.0
1979										0.55	0.31	0.13	0.17	0.0
1980											0.43	0.14	0.19	0.0
1981												0.15	0.21	0.0
1982													0.24	0.0
1983														0.1

Purchase  
Year

Returns to Value

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
1970	0.10	0.00	0.06	0.22	0.15	0.18	0.34	0.14	0.21	0.12	0.11	0.06	0.08	0.05
1971		0.00	0.06	0.22	0.16	0.18	0.34	0.14	0.22	0.12	0.11	0.06	0.08	0.05
1972			0.06	0.22	0.16	0.18	0.34	0.14	0.21	0.12	0.11	0.06	0.08	0.05
1973				0.22	0.16	0.18	0.34	0.14	0.22	0.12	0.11	0.06	0.08	0.05
1974					0.16	0.18	0.34	0.14	0.22	0.12	0.11	0.06	0.08	0.05
1975						0.18	0.35	0.14	0.22	0.12	0.11	0.06	0.08	0.05
1976							0.35	0.14	0.22	0.13	0.11	0.07	0.09	0.06
1977								0.14	0.22	0.13	0.11	0.07	0.09	0.06
1978									0.22	0.13	0.11	0.07	0.09	0.06
1979										0.13	0.11	0.07	0.09	0.06
1980											0.11	0.07	0.09	0.06
1981												0.08	0.09	0.06
1982													0.09	0.06
1983														0.07





ANNUAL RATES OF RETURN BY PURCHASE YEAR  
LARGE PROPERTIES--INSIDE L.A.--HIGH TAXES

Purchase  
Year

Returns to Equity

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
1970	0.16	0.23-0.19	0.78	0.56	0.17	0.86	0.19	0.15	0.34	0.07	0.12	0.13	0.1	
1971		0.27-0.20	0.93	0.62	0.19	0.89	0.20	0.16	0.35	0.07	0.12	0.13	0.1	
1972			-0.22	1.10	0.67	0.19	0.93	0.20	0.16	0.35	0.07	0.12	0.13	0.1
1973				0.73	0.55	0.18	0.84	0.19	0.16	0.34	0.07	0.12	0.13	0.1
1974					0.85	0.21	1.02	0.21	0.18	0.36	0.07	0.12	0.13	0.1
1975						0.35	1.56	0.24	0.18	0.40	0.07	0.13	0.14	0.1
1976							2.00	0.26	0.20	0.42	0.08	0.13	0.14	0.1
1977								0.61	0.35	0.65	0.10	0.16	0.17	0.1
1978									0.52	0.85	0.11	0.18	0.19	0.1
1979										1.22	0.12	0.21	0.21	0.1
1980											0.20	0.32	0.30	0.1
1981												0.33	0.31	0.1
1982													0.37	0.2
1983														0.3

Purchase  
Year

Returns to Value

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
1970	0.06	0.08-0.02	0.17	0.19	0.09	0.42	0.14	0.12	0.26	0.06	0.10	0.11	0.09	
1971		0.08-0.02	0.17	0.19	0.09	0.42	0.14	0.12	0.26	0.06	0.10	0.11	0.09	
1972			-0.02	0.17	0.19	0.09	0.42	0.14	0.12	0.26	0.06	0.10	0.11	0.09
1973				0.17	0.19	0.09	0.42	0.14	0.12	0.26	0.06	0.10	0.11	0.09
1974					0.19	0.09	0.42	0.14	0.12	0.26	0.06	0.10	0.11	0.09
1975						0.09	0.42	0.14	0.12	0.26	0.06	0.10	0.11	0.09
1976							0.42	0.14	0.12	0.26	0.06	0.10	0.11	0.09
1977								0.14	0.12	0.27	0.06	0.10	0.11	0.10
1978									0.12	0.27	0.06	0.11	0.11	0.10
1979										0.27	0.07	0.11	0.12	0.10
1980											0.07	0.11	0.12	0.10
1981												0.11	0.12	0.10
1982													0.12	0.10
1983														0.10



ANNUAL RATES OF RETURN BY PURCHASE YEAR  
LARGE PROPERTIES--OUTSIDE L.A.--HIGH TAXES

Purchase  
Year

Returns to Equity

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
1970	0.18	0.03-0.39	2.26	0.41	1.09	0.53	0.35	0.23	0.50	0.17	0.03	0.08	0.08	0.00
1971		0.05-0.46	4.19	0.52	1.24	0.56	0.36	0.24	0.50	0.18	0.04	0.08	0.08	0.00
1972			-0.37	2.22	0.43	1.09	0.53	0.35	0.23	0.50	0.18	0.04	0.08	0.00
1973				0.94	0.28	0.81	0.47	0.32	0.22	0.48	0.17	0.04	0.08	0.00
1974					0.39	1.04	0.52	0.35	0.23	0.50	0.17	0.04	0.08	0.00
1975						1.39	0.58	0.37	0.24	0.52	0.18	0.03	0.08	0.00
1976							1.19	0.52	0.30	0.61	0.20	0.04	0.09	0.00
1977								1.01	0.43	0.78	0.22	0.04	0.09	0.00
1978									0.76	1.10	0.26	0.04	0.10	0.00
1979										1.78	0.30	0.04	0.11	0.00
1980											0.64	0.04	0.15-0.01	
1981												0.00	0.19-0.06	
1982													0.18-0.07	
1983														-0.05

Purchase  
Year

Returns to Value

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
1970	0.06	0.03-0.05	0.21	0.10	0.30	0.26	0.22	0.17	0.37	0.15	0.04	0.07	0.07	0.02
1971		0.03-0.05	0.21	0.10	0.30	0.26	0.22	0.17	0.37	0.15	0.04	0.07	0.07	0.02
1972			-0.05	0.21	0.10	0.30	0.26	0.22	0.17	0.37	0.15	0.04	0.07	0.02
1973				0.21	0.10	0.30	0.26	0.22	0.17	0.37	0.15	0.03	0.07	0.02
1974					0.10	0.30	0.26	0.22	0.17	0.37	0.15	0.04	0.07	0.02
1975						0.30	0.26	0.22	0.17	0.37	0.15	0.04	0.07	0.02
1976							0.26	0.22	0.17	0.37	0.15	0.04	0.07	0.02
1977								0.22	0.17	0.37	0.15	0.04	0.07	0.02
1978									0.17	0.38	0.15	0.04	0.08	0.02
1979										0.38	0.15	0.04	0.08	0.02
1980											0.16	0.04	0.08	0.02
1981												0.05	0.08	0.03
1982													0.08	0.03
1983														0.03



ANNUAL RATES OF RETURN BY PURCHASE YEAR  
SMALL PROPERTIES--INSIDE L.A.--MOD TAXES

Purchase  
Year

Returns to Equity

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
1970	0.43	0.10	0.25	0.56	0.52	0.04	0.91	0.11	0.24	0.05	0.02	0.17	0.15	0.11
1971		0.14	0.33	0.68	0.59	0.04	0.98	0.12	0.25	0.05	0.02	0.18	0.15	0.11
1972			0.39	0.75	0.63	0.05	1.01	0.12	0.25	0.05	0.02	0.18	0.15	0.11
1973				1.00	0.73	0.05	1.10	0.12	0.26	0.05	0.02	0.18	0.16	0.11
1974					1.15	0.05	1.36	0.13	0.28	0.05	0.02	0.19	0.16	0.11
1975						0.05	2.48	0.15	0.32	0.05	0.02	0.21	0.17	0.11
1976							2.62	0.15	0.33	0.05	0.02	0.21	0.17	0.11
1977								0.36	0.66	0.08	0.02	0.32	0.24	0.21
1978									0.87	0.08	0.01	0.36	0.26	0.21
1979										0.11	-0.01	0.55	0.34	0.30
1980											-0.06	0.58	0.34	0.30
1981												0.52	0.31	0.28
1982													0.43	0.34
1983														0.51

Purchase  
Year

Returns to Value

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
1970	0.12	0.06	0.10	0.23	0.26	0.04	0.55	0.10	0.20	0.05	0.02	0.15	0.13	0.14
1971		0.06	0.10	0.23	0.26	0.04	0.55	0.10	0.20	0.05	0.02	0.15	0.13	0.14
1972			0.10	0.23	0.26	0.04	0.55	0.10	0.20	0.05	0.02	0.15	0.13	0.14
1973				0.23	0.26	0.04	0.55	0.10	0.20	0.05	0.02	0.15	0.13	0.14
1974					0.26	0.04	0.56	0.10	0.20	0.05	0.02	0.15	0.13	0.14
1975						0.04	0.56	0.10	0.20	0.05	0.03	0.15	0.13	0.14
1976							0.56	0.10	0.20	0.05	0.03	0.15	0.13	0.14
1977								0.10	0.20	0.05	0.03	0.15	0.14	0.14
1978									0.20	0.05	0.03	0.15	0.14	0.14
1979										0.05	0.03	0.16	0.14	0.14
1980											0.03	0.16	0.14	0.14
1981												0.16	0.14	0.15
1982													0.14	0.15
1983														0.15





ANNUAL RATES OF RETURN BY PURCHASE YEAR  
SMALL PROPERTIES---OUTSIDE L.A.--MOD TAXES

Purchase  
Year

Returns to Equity

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
1970	0.43-0.08	0.16	0.92	0.41	0.39	0.66	0.20	0.31	0.17	0.14	0.07	0.10	0.0	
1971		-0.10	0.24	1.25	0.50	0.44	0.71	0.21	0.32	0.17	0.14	0.08	0.10	0.0
1972			0.22	1.11	0.47	0.43	0.69	0.21	0.32	0.17	0.14	0.08	0.10	0.0
1973				1.31	0.52	0.45	0.72	0.22	0.32	0.17	0.14	0.08	0.10	0.0
1974					0.76	0.56	0.84	0.23	0.34	0.18	0.15	0.08	0.10	0.0
1975						0.88	1.07	0.25	0.37	0.19	0.15	0.08	0.11	0.0
1976							1.83	0.30	0.43	0.21	0.17	0.08	0.11	0.0
1977								0.67	0.72	0.28	0.21	0.10	0.13	0.0
1978									1.10	0.34	0.24	0.11	0.14	0.0
1979										0.58	0.33	0.13	0.18	0.0
1980											0.44	0.13	0.19	0.0
1981												0.12	0.20	0.0
1982													0.22	0.0
1983														0.1

Purchase  
Year

Returns to Value

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
1970	0.12	0.01	0.07	0.29	0.18	0.21	0.40	0.16	0.24	0.14	0.12	0.07	0.09	0.06
1971		0.01	0.07	0.29	0.18	0.21	0.40	0.16	0.24	0.14	0.12	0.07	0.09	0.06
1972			0.07	0.29	0.18	0.21	0.40	0.16	0.24	0.14	0.12	0.07	0.09	0.06
1973				0.29	0.18	0.21	0.40	0.16	0.24	0.14	0.12	0.07	0.09	0.06
1974					0.18	0.21	0.40	0.16	0.24	0.14	0.12	0.07	0.09	0.06
1975						0.21	0.40	0.16	0.25	0.14	0.12	0.07	0.09	0.06
1976							0.40	0.16	0.25	0.14	0.12	0.07	0.09	0.06
1977								0.16	0.25	0.15	0.13	0.07	0.09	0.06
1978									0.25	0.15	0.13	0.07	0.09	0.06
1979										0.15	0.13	0.07	0.10	0.06
1980											0.13	0.08	0.10	0.06
1981												0.08	0.10	0.07
1982													0.10	0.07
1983														0.07



ANNUAL RATES OF RETURN BY PURCHASE YEAR  
LARGE PROPERTIES--INSIDE L.A.--MOD TAXES

Purchase  
Year

Returns to Equity

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
1970	0.18	0.31-0.21	0.94	0.65	0.21	1.00	0.22	0.18	0.39	0.08	0.13	0.14	0.1	
1971		0.36-0.22	1.13	0.72	0.23	1.05	0.23	0.18	0.39	0.09	0.13	0.14	0.1	
1972			-0.24	1.34	0.78	0.24	1.08	0.23	0.19	0.40	0.09	0.13	0.14	0.1
1973				0.89	0.64	0.22	0.99	0.22	0.18	0.39	0.09	0.13	0.14	0.1
1974					0.95	0.26	1.19	0.24	0.19	0.41	0.09	0.13	0.14	0.1
1975						0.41	1.81	0.27	0.21	0.45	0.09	0.14	0.15	0.1
1976							2.32	0.29	0.22	0.47	0.09	0.14	0.15	0.1
1977								0.68	0.39	0.73	0.12	0.18	0.18	0.1
1978									0.57	0.95	0.13	0.20	0.20	0.1
1979										1.35	0.14	0.22	0.22	0.1
1980											0.20	0.33	0.30	0.2
1981												0.33	0.30	0.1
1982													0.37	0.2
1983														0.3

Purchase  
Year

Returns to Value

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
1970	0.07	0.10-0.02	0.21	0.22	0.12	0.49	0.16	0.14	0.30	0.08	0.11	0.12	0.10	
1971		0.10-0.02	0.21	0.22	0.12	0.49	0.16	0.14	0.30	0.08	0.11	0.12	0.10	
1972			-0.02	0.21	0.22	0.12	0.49	0.16	0.14	0.30	0.08	0.11	0.12	0.10
1973				0.21	0.22	0.12	0.49	0.16	0.14	0.30	0.08	0.11	0.12	0.10
1974					0.22	0.12	0.49	0.16	0.14	0.30	0.08	0.11	0.12	0.10
1975						0.12	0.50	0.16	0.14	0.30	0.08	0.11	0.12	0.10
1976							0.50	0.16	0.14	0.30	0.08	0.11	0.12	0.10
1977								0.16	0.14	0.30	0.08	0.11	0.12	0.10
1978									0.14	0.30	0.08	0.12	0.12	0.11
1979										0.30	0.08	0.12	0.12	0.11
1980											0.08	0.12	0.13	0.11
1981												0.12	0.13	0.11
1982													0.13	0.11
1983														0.11



ANNUAL RATES OF RETURN BY PURCHASE YEAR  
LARGE PROPERTIES--OUTSIDE L.A.--MOD TAXES

Purchase  
Year

Returns to Equity

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
1970	0.20	0.09-0.45		2.97	0.48	1.28	0.62	0.40	0.27	0.56	0.20	0.04	0.09	0.0
1971		0.11-0.52		5.53	0.60	1.45	0.66	0.41	0.27	0.57	0.21	0.04	0.09	0.0
1972			-0.41	2.94	0.50	1.28	0.63	0.40	0.27	0.56	0.20	0.04	0.09	0.0
1973				1.26	0.33	0.95	0.55	0.37	0.26	0.54	0.20	0.04	0.09	0.0
1974					0.45	1.22	0.62	0.40	0.27	0.56	0.20	0.04	0.09	0.0
1975						1.61	0.68	0.42	0.28	0.58	0.21	0.04	0.09	0.0
1976							1.39	0.58	0.34	0.68	0.23	0.04	0.09	0.0
1977								1.13	0.48	0.87	0.26	0.05	0.10	0.0
1978									0.84	1.22	0.29	0.05	0.11	0.0
1979										1.96	0.34	0.05	0.12	0.0
1980											0.69	0.03	0.15-0.0	
1981												-0.02	0.17-0.0	
1982													0.16-0.0	
1983														-0.0

Purchase  
Year

Returns to Value

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
1970	0.07	0.05-0.05		0.28	0.12	0.36	0.31	0.25	0.19	0.42	0.17	0.04	0.08	0.02
1971		0.05-0.05		0.28	0.12	0.36	0.31	0.25	0.19	0.42	0.17	0.04	0.08	0.02
1972			-0.06	0.28	0.12	0.36	0.31	0.25	0.19	0.42	0.17	0.04	0.08	0.02
1973				0.28	0.12	0.36	0.31	0.25	0.19	0.42	0.17	0.04	0.08	0.02
1974					0.12	0.36	0.31	0.25	0.19	0.42	0.17	0.04	0.08	0.02
1975						0.36	0.31	0.25	0.19	0.42	0.17	0.04	0.08	0.02
1976							0.31	0.25	0.20	0.42	0.17	0.04	0.08	0.02
1977								0.25	0.20	0.42	0.18	0.04	0.08	0.02
1978									0.20	0.42	0.18	0.04	0.08	0.03
1979										0.42	0.18	0.04	0.08	0.03
1980											0.18	0.05	0.08	0.03
1981												0.05	0.09	0.03
1982													0.09	0.03
1983														0.03



ANNUAL RATES OF RETURN BY PURCHASE YEAR  
SMALL PROPERTIES--INSIDE L.A.--LOW TAXES

Purchase  
Year

Returns to Equity

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
1970	0.47	0.10	0.27	0.63	0.57	0.05	1.00	0.13	0.26	0.06	0.03	0.19	0.17	0.17
1971		0.15	0.36	0.78	0.65	0.05	1.08	0.13	0.27	0.06	0.03	0.19	0.17	0.17
1972			0.42	0.85	0.69	0.06	1.11	0.13	0.28	0.06	0.03	0.20	0.17	0.17
1973				1.13	0.81	0.06	1.21	0.14	0.29	0.06	0.03	0.20	0.17	0.17
1974					1.26	0.05	1.49	0.14	0.30	0.06	0.02	0.21	0.18	0.18
1975						0.04	2.70	0.16	0.35	0.06	0.02	0.23	0.19	0.19
1976							2.86	0.16	0.35	0.06	0.02	0.23	0.19	0.19
1977								0.38	0.71	0.08	0.02	0.34	0.26	0.26
1978									0.92	0.09	0.01	0.38	0.28	0.28
1979										0.10	0.02	0.58	0.36	0.32
1980											-0.09	0.60	0.36	0.31
1981												0.51	0.31	0.28
1982													0.42	0.34
1983														0.51

Purchase  
Year

Returns to Value

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
1970	0.13	0.06	0.12	0.26	0.29	0.05	0.61	0.11	0.22	0.06	0.03	0.17	0.15	0.15
1971		0.06	0.12	0.26	0.29	0.05	0.61	0.11	0.22	0.06	0.03	0.17	0.15	0.15
1972			0.12	0.26	0.29	0.05	0.61	0.11	0.22	0.06	0.03	0.17	0.15	0.15
1973				0.26	0.29	0.05	0.61	0.11	0.22	0.06	0.03	0.17	0.15	0.15
1974					0.29	0.05	0.61	0.11	0.22	0.06	0.03	0.17	0.15	0.15
1975						0.05	0.61	0.11	0.22	0.06	0.03	0.17	0.15	0.15
1976							0.61	0.11	0.22	0.06	0.03	0.17	0.15	0.15
1977								0.11	0.22	0.06	0.03	0.17	0.15	0.16
1978									0.22	0.06	0.03	0.17	0.15	0.16
1979										0.06	0.03	0.17	0.15	0.16
1980											0.03	0.17	0.15	0.16
1981												0.17	0.15	0.16
1982													0.15	0.16
1983														0.16





ANNUAL RATES OF RETURN BY PURCHASE YEAR  
SMALL PROPERTIES--OUTSIDE L.A.--LOW TAXES

Purchase  
Year

Returns to Equity

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
1970	0.47	-0.08	0.17	1.08	0.45	0.43	0.72	0.22	0.34	0.18	0.15	0.08	0.11	0.07
1971		-0.11	0.26	1.46	0.55	0.49	0.78	0.23	0.35	0.19	0.16	0.09	0.11	0.07
1972			0.24	1.31	0.52	0.47	0.76	0.23	0.35	0.19	0.16	0.09	0.11	0.07
1973				1.54	0.57	0.50	0.79	0.24	0.35	0.19	0.16	0.09	0.12	0.07
1974					0.83	0.62	0.92	0.25	0.37	0.20	0.16	0.09	0.12	0.07
1975						0.95	1.17	0.27	0.40	0.20	0.17	0.09	0.12	0.07
1976							1.99	0.33	0.46	0.22	0.18	0.09	0.12	0.08
1977								0.71	0.77	0.30	0.23	0.11	0.15	0.09
1978									1.17	0.36	0.26	0.12	0.16	0.09
1979										0.61	0.35	0.14	0.19	0.10
1980											0.45	0.13	0.20	0.08
1981												0.08	0.19	0.05
1982													0.20	0.04
1983														0.09

Purchase  
Year

Returns to Value

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
1970	0.13	0.01	0.08	0.34	0.20	0.23	0.44	0.17	0.27	0.16	0.14	0.08	0.10	0.07
1971		0.01	0.08	0.34	0.20	0.23	0.44	0.17	0.27	0.16	0.14	0.08	0.10	0.07
1972			0.08	0.34	0.20	0.23	0.44	0.17	0.27	0.16	0.14	0.08	0.10	0.07
1973				0.34	0.20	0.23	0.44	0.17	0.27	0.16	0.14	0.08	0.10	0.07
1974					0.20	0.23	0.44	0.17	0.27	0.16	0.14	0.08	0.10	0.07
1975						0.23	0.44	0.17	0.27	0.16	0.14	0.08	0.10	0.07
1976							0.44	0.18	0.27	0.16	0.14	0.08	0.10	0.07
1977								0.18	0.27	0.16	0.14	0.08	0.11	0.07
1978									0.27	0.16	0.14	0.08	0.11	0.07
1979										0.16	0.14	0.08	0.11	0.07
1980											0.14	0.08	0.11	0.07
1981												0.08	0.11	0.07
1982													0.11	0.07
1983														0.07



ANNUAL RATES OF RETURN BY PURCHASE YEAR  
LARGE PROPERTIES--INSIDE L.A.--LOW TAXES

Purchase  
Year

Returns to Equity

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
1970	0.20	0.36-0.22	1.06	0.71	0.25	1.11	0.24	0.20	0.42	0.10	0.15	0.15	0.15	0.15
1971		0.43-0.23	1.28	0.79	0.26	1.16	0.25	0.20	0.43	0.10	0.15	0.15	0.15	0.15
1972			-0.25	1.52	0.86	0.28	1.20	0.25	0.21	0.43	0.10	0.15	0.15	0.15
1973				1.01	0.70	0.25	1.10	0.25	0.20	0.42	0.10	0.15	0.15	0.15
1974					1.04	0.30	1.32	0.26	0.21	0.44	0.10	0.15	0.16	0.16
1975						0.46	2.00	0.30	0.23	0.49	0.10	0.16	0.16	0.16
1976							2.56	0.32	0.24	0.51	0.11	0.16	0.17	0.17
1977								0.73	0.42	0.78	0.13	0.20	0.20	0.16
1978									0.61	1.02	0.14	0.22	0.22	0.17
1979										1.44	0.16	0.24	0.24	0.16
1980											0.20	0.35	0.32	0.21
1981												0.33	0.30	0.20
1982													0.35	0.21
1983														0.35

Purchase  
Year

Returns to Value

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
1970	0.08	0.12-0.02	0.24	0.25	0.13	0.55	0.18	0.16	0.32	0.09	0.13	0.13	0.13	0.12
1971		0.12-0.02	0.24	0.25	0.13	0.55	0.18	0.16	0.32	0.09	0.13	0.13	0.13	0.12
1972			-0.02	0.24	0.25	0.13	0.55	0.18	0.16	0.32	0.09	0.13	0.13	0.12
1973				0.24	0.25	0.13	0.55	0.18	0.16	0.32	0.09	0.13	0.13	0.12
1974					0.25	0.13	0.55	0.18	0.16	0.32	0.09	0.13	0.13	0.12
1975						0.14	0.55	0.18	0.16	0.32	0.09	0.13	0.14	0.12
1976							0.55	0.18	0.16	0.32	0.09	0.13	0.14	0.12
1977								0.18	0.16	0.33	0.09	0.13	0.14	0.12
1978									0.16	0.33	0.09	0.13	0.14	0.12
1979										0.33	0.09	0.13	0.14	0.12
1980											0.09	0.13	0.14	0.12
1981												0.13	0.14	0.12
1982													0.14	0.12
1983														0.12



ANNUAL RATES OF RETURN BY PURCHASE YEAR  
LARGE PROPERTIES--OUTSIDE L.A.--LOW TAXES

Purchase  
Year

Returns to Equity

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
1970	0.22	0.13-0.48		3.51	0.53	1.41	0.69	0.43	0.29	0.61	0.22	0.05	0.10	0.07
1971		0.16-0.56		6.53	0.66	1.61	0.73	0.45	0.30	0.62	0.23	0.05	0.10	0.07
1972			-0.44	3.48	0.56	1.42	0.70	0.44	0.30	0.61	0.23	0.05	0.10	0.07
1973				1.49	0.37	1.06	0.62	0.41	0.28	0.58	0.22	0.05	0.10	0.07
1974					0.50	1.35	0.69	0.43	0.29	0.61	0.23	0.05	0.10	0.07
1975						1.78	0.76	0.46	0.30	0.63	0.23	0.05	0.10	0.07
1976							1.53	0.63	0.37	0.74	0.25	0.05	0.10	0.07
1977								1.22	0.52	0.94	0.28	0.06	0.11	0.07
1978									0.90	1.31	0.32	0.06	0.12	0.07
1979										2.10	0.37	0.06	0.13	0.07
1980											0.72	0.03	0.16-0.07	
1981												-0.06	0.14-0.11	
1982													0.13-0.12	
1983														-0.10

Purchase  
Year

Returns to Value

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
1970	0.08	0.07-0.06	0.33	0.14	0.40	0.35	0.28	0.21	0.46	0.19	0.05	0.09	0.03	
1971		0.07-0.06	0.33	0.14	0.40	0.35	0.28	0.21	0.46	0.19	0.05	0.09	0.03	
1972			-0.06	0.33	0.14	0.40	0.35	0.28	0.21	0.46	0.19	0.05	0.09	0.03
1973				0.33	0.14	0.40	0.35	0.28	0.21	0.45	0.19	0.05	0.09	0.03
1974					0.14	0.40	0.35	0.28	0.21	0.46	0.19	0.05	0.09	0.03
1975						0.40	0.35	0.28	0.21	0.46	0.19	0.05	0.09	0.03
1976							0.35	0.28	0.22	0.46	0.19	0.05	0.09	0.03
1977								0.28	0.22	0.46	0.19	0.05	0.09	0.03
1978									0.22	0.46	0.19	0.05	0.09	0.03
1979										0.46	0.20	0.05	0.09	0.03
1980											0.20	0.05	0.09	0.03
1981												0.06	0.10	0.04
1982													0.10	0.04
1983														0.04



## APPENDIX G (b)

### INTERNAL RATES OF RETURN ACQUISITION YEAR BY DISPOSITION YEAR

Internal rates of return were calculated for all possible holding periods between 1970 and 1984. These yields were compared both on equity and on value. In the former case, no refinancing was assumed.

$$\sum_{i=0}^T \frac{CF_i}{(1+r)^i} = 0$$

$CF_i$  = cash flow in period  $i$   
 $r$  = internal rate of return

The tables that follow present the computation assuming high taxes for the two prototype properties inside and outside Los Angeles.





INTERNAL RATES OF RETURN BY PURCHASE & SALE YEAR  
SMALL PROPERTIES INSIDE L.A. HIGH TAXES

Purchase  
Year

Returns to Equity

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
1970	0.55	0.37	0.38	0.44	0.46	0.40	0.44	0.40	0.34	0.28	0.23	0.20	0.18	0.16
1971		0.15	0.26	0.33	0.39	0.23	0.42	0.39	0.36	0.32	0.28	0.25	0.21	0.19
1972			0.18	0.28	0.48	0.30	0.40	0.38	0.37	0.34	0.31	0.29	0.26	0.22
1973				0.20	0.29	0.27	0.37	0.35	0.34	0.32	0.31	0.29	0.26	0.22
1974					0.17	0.13	0.30	0.29	0.29	0.28	0.27	0.27	0.26	0.25
1975						0.03	0.22	0.22	0.24	0.22	0.22	0.23	0.23	0.23
1976							0.20	0.20	0.16	0.22	0.21	0.22	0.22	0.16
1977								0.08	0.11	0.12	0.12	0.14	0.16	0.17
1978									0.08	0.08	0.09	0.12	0.13	0.15
1979										0.02	0.03	0.07	0.09	0.12
1980											0.00	0.05	0.07	0.09
1981												0.04	0.06	0.08
1982													0.03	0.05
1983														0.03

Purchase  
Year

Returns to Value

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
1970	0.15	0.35	0.11	0.12	0.15	0.13	0.19	0.18	0.18	0.17	0.16	0.16	0.16	0.16
1971		0.05	0.07	0.09	0.12	0.11	0.16	0.16	0.16	0.15	0.15	0.15	0.15	0.15
1972			0.05	0.08	0.11	0.10	0.15	0.15	0.15	0.15	0.14	0.14	0.14	0.14
1973				0.06	0.08	0.08	0.14	0.13	0.14	0.13	0.13	0.13	0.15	0.13
1974					0.08	0.05	0.11	0.11	0.12	0.11	0.11	0.11	0.11	0.12
1975						0.01	0.07	0.07	0.09	0.08	0.08	0.09	0.09	0.09
1976							0.07	0.07	0.08	0.08	0.08	0.08	0.09	0.09
1977								0.01	0.03	0.03	0.03	0.04	0.05	0.06
1978									0.02	0.03	0.03	0.04	0.04	0.05
1979										0.01	0.01	0.02	0.03	0.04
1980											0.01	0.02	0.02	0.03
1981												0.02	0.02	0.03
1982													0.01	0.02
1983														0.01



# INTERNAL RATES OF RETURN BY PURCHASE & SALE YEAR SMALL PROPERTIES OUTSIDE U.S. HIGH TAXES

Purchase  
Year

## Returns to Equity

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
1970	0.59	0.28	0.37	0.38	0.42	0.41	0.43	0.38	0.34	0.29	0.24	0.20	0.18	0.16
1971		0.03	0.23	0.31	0.35	0.37	0.38	0.39	0.37	0.34	0.30	0.25	0.22	0.19
1972			0.16	0.32	0.33	0.35	0.41	0.39	0.39	0.36	0.34	0.30	0.26	0.23
1973				0.24	0.26	0.30	0.40	0.37	0.37	0.35	0.35	0.33	0.29	0.26
1974					0.12	0.20	0.29	0.29	0.31	0.30	0.30	0.28	0.27	0.25
1975						0.11	0.24	0.24	0.27	0.27	0.27	0.26	0.25	0.24
1976							0.17	0.19	0.22	0.23	0.23	0.23	0.23	0.22
1977								0.07	0.13	0.16	0.17	0.17	0.18	0.18
1978									0.09	0.12	0.14	0.14	0.15	0.16
1979										0.05	0.08	0.09	0.11	0.12
1980											0.04	0.05	0.07	0.08
1981												0.01	0.03	0.04
1982													0.02	0.03
1983														0.02

Purchase  
Year

## Returns to Value

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
1970	0.16	0.08	0.10	0.11	0.12	0.13	0.17	0.17	0.18	0.17	0.19	0.17	0.17	0.13
1971		0.01	0.07	0.08	0.09	0.11	0.15	0.15	0.16	0.16	0.16	0.16	0.15	0.15
1972			0.06	0.08	0.09	0.11	0.15	0.15	0.16	0.16	0.13	0.16	0.15	0.15
1973				0.06	0.08	0.10	0.14	0.14	0.15	0.15	0.15	0.15	0.15	0.14
1974					0.04	0.06	0.10	0.11	0.13	0.13	0.13	0.13	0.13	0.12
1975						0.03	0.08	0.09	0.11	0.11	0.11	0.11	0.11	0.11
1976							0.05	0.06	0.08	0.09	0.10	0.09	0.09	0.09
1977								0.02	0.04	0.05	0.06	0.06	0.06	0.06
1978									0.03	0.04	0.05	0.05	0.05	0.05
1979										0.02	0.03	0.03	0.03	0.04
1980											0.01	0.02	0.02	0.03
1981												0.01	0.02	0.02
1982													0.01	0.01
1983														0.01



INTERNAL RATES OF RETURN BY PURCHASE & SALE YEAR  
 LARGE PROPERTIES OUTSIDE L.A. HIGH TAXES

Purchase  
Year

Returns to Equity

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
1970	0.57	0.28	0.25	0.33	0.35	0.40	0.41	0.38	0.32	0.29	0.24	0.20	0.18	0.16
1971		0.12	0.12	0.23	0.29	0.37	0.39	0.39	0.37	0.35	0.31	0.26	0.22	0.19
1972			0.07	0.17	0.23	0.33	0.36	0.37	0.36	0.37	0.34	0.31	0.27	0.23
1973				0.23	0.27	0.35	0.37	0.39	0.38	0.39	0.38	0.34	0.31	0.28
1974					0.11	0.23	0.29	0.31	0.31	0.34	0.33	0.31	0.29	0.27
1975						0.18	0.25	0.28	0.29	0.31	0.31	0.30	0.28	0.27
1976							0.14	0.19	0.21	0.27	0.26	0.25	0.25	0.24
1977								0.11	0.15	0.20	0.22	0.21	0.22	0.21
1978									0.08	0.16	0.17	0.17	0.17	0.17
1979										0.12	0.14	0.14	0.14	0.14
1980											0.05	0.06	0.07	0.07
1981												0.00	0.02	0.02
1982													0.02	0.02
1983														0.01

Purchase  
Year

Returns to Value

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
1970	0.15	0.09	0.06	0.07	0.08	0.11	0.14	0.15	0.15	0.18	0.18	0.17	0.17	0.16
1971		0.04	0.04	0.05	0.06	0.10	0.12	0.14	0.14	0.17	0.17	0.16	0.16	0.15
1972			0.02	0.05	0.06	0.09	0.12	0.13	0.14	0.16	0.17	0.16	0.15	0.15
1973				0.07	0.07	0.11	0.13	0.15	0.15	0.17	0.18	0.17	0.17	0.16
1974					0.03	0.07	0.10	0.12	0.13	0.15	0.16	0.15	0.15	0.14
1975						0.06	0.09	0.10	0.11	0.14	0.15	0.14	0.14	0.13
1976							0.04	0.06	0.08	0.11	0.11	0.11	0.10	0.10
1977								0.03	0.05	0.08	0.09	0.08	0.08	0.08
1978									0.02	0.05	0.07	0.06	0.07	0.06
1979										0.04	0.05	0.05	0.05	0.05
1980											0.02	0.02	0.02	0.02
1981												0.01	0.01	0.02
1982													0.01	0.01
1983														0.01



INTERNAL RATES OF RETURN BY PURCHASE & SALE YEAR  
LARGE PROPERTIES INSIDE I.L.A. HIGH TAXES

Purchase  
Year

Returns to Equity

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
1970	0.52	0.37	0.26	0.48	0.40	0.40	0.44	0.37	0.32	0.28	0.24	0.20	0.18	0.16
1971		0.29	0.13	0.26	0.34	0.23	0.41	0.39	0.35	0.34	0.29	0.25	0.22	0.19
1972			0.01	0.17	0.27	0.28	0.36	0.35	0.34	0.34	0.32	0.32	0.26	0.23
1973				0.19	0.28	0.28	0.36	0.36	0.34	0.23	0.33	0.31	0.29	0.26
1974					0.13	0.19	0.30	0.30	0.29	0.31	0.30	0.29	0.28	0.26
1975						0.09	0.29	0.24	0.24	0.27	0.26	0.26	0.24	0.23
1976							0.18	0.22	0.22	0.25	0.24	0.23	0.25	0.23
1977								0.08	0.11	0.19	0.17	0.18	0.18	0.16
1978									0.06	0.13	0.14	0.15	0.16	0.17
1979										0.09	0.10	0.12	0.13	0.14
1980											0.03	0.05	0.07	0.06
1981												0.03	0.05	0.07
1982													0.03	0.05
1983														0.03

Purchase  
Year

Returns to Value

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
1970	0.14	0.10	0.06	0.08	0.10	0.11	0.15	0.15	0.15	0.17	0.16	0.16	0.16	0.16
1971		0.06	0.04	0.06	0.09	0.10	0.14	0.14	0.14	0.16	0.15	0.15	0.15	0.15
1972			0.02	0.05	0.07	0.08	0.13	0.13	0.13	0.15	0.14	0.14	0.14	0.14
1973				0.05	0.08	0.09	0.13	0.14	0.14	0.15	0.15	0.15	0.15	0.15
1974					0.05	0.06	0.11	0.11	0.12	0.12	0.13	0.13	0.13	0.13
1975						0.03	0.08	0.09	0.09	0.10	0.11	0.11	0.11	0.11
1976							0.06	0.07	0.08	0.10	0.10	0.35	0.10	0.10
1977								0.02	0.03	0.05	0.06	0.06	0.07	0.07
1978									0.02	0.04	0.05	0.05	0.06	0.06
1979										0.03	0.03	0.04	0.05	0.05
1980											0.01	0.02	0.03	0.03
1981												0.01	0.02	0.03
1982													0.01	0.02
1983														0.01





## APPENDIX H

### PRICE DATA FOR CONSTRUCTING THE COST-BASED INDEX

This appendix presents additional information on the data used to measure changes in input prices for the seven major components of building expenditures. All of these data have been obtained from secondary sources, and can be readily updated in future years.

#### Wages and Salaries

The best source of data for measuring annual changes in wages and salaries appears to be the M&M Community Wage Rate Survey for Los Angeles County. The survey reports wage data for general maintenance workers on a July-to-July basis. While other sources of wage data are available -- for example, the BLS Area Wage Survey for skilled maintenance workers -- these surveys typically apply to larger establishments than is true of the M&M survey.

#### Utilities

Data for electric, water and gas service are available from the DPW statistical report (1974-1984) and Pacific Lighting Corporation's Annual Report (1983). Sewer charges are determined by the City and added to each bill according to water usage. Together these sources provide the following data:

- o annual average changes in electric costs (cents per kilowatt hour, commercial)
- o annual average changes in water costs (cents per 100 cubic feet, commercial)
- o average annual changes in sewer charges (cents per 100 cubic feet, residential for buildings with four or fewer units and commercial for buildings with 5+ units)



- o average annual changes in gas costs (cents per 1,000 cubic feet, residential)

An alternative to using per unit averages would be to price a set of standard bills over the 1977-1984 period. However, we believe this would pose data collection problems for the current study and would be difficult for the City to update. By contrast, the proposed approach is simple and should yield reasonable results for the price index.

#### **Management and Administration**

There are no readily available data that can be used to measure changes in management fees or in the prices of various inputs associated with building management and administration. However, the Institute of Real Estate Management (IREM) publishes annual estimates of management and administrative costs for four different building types. These data are presented in Exhibit H-1, expressed on a square foot basis. We have also derived two different sample averages. The first was obtained by weighting the average costs of each building type by the number of square feet represented in that category. The second figure -- which we have called the "constant-share" average -- was derived by weighting the costs per square foot in each building category by a constant fraction in every year. As a result, the latter estimate controls for year-to-year shifts in the composition of the sample.

As is evident from the chart, management and administrative expenditures remained constant or declined between 1977 and 1980, and then increased at a relatively rapid rate between 1980 and 1983. This



# EXHIBIT H-1

## ADMINISTRATIVE AND MANAGEMENT COSTS PER SQUARE FOOT: 1977-1983<sup>1</sup>

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>
Elevator	0.27	0.28	0.41	0.26	0.30	0.43	0.44
12-24 Units	0.23	0.25	0.26	0.28	0.34	0.37	0.49
24+ Units	0.23	0.35	0.23	0.27	0.39	0.40	0.40
Garden Apartments	0.35	0.31	0.29	0.30	0.36	0.43	0.47
Sample Average <sup>2</sup>	0.33	0.31	0.29	0.29	0.36	0.42	0.44
"Constant-Share Average" <sup>3</sup>	0.29	0.30	0.28	0.29	0.36	0.41	0.46

- 
1. Source: Institute for Real Estate Management.
  2. Sample averages were derived by weighting the cost per square foot in each building category by the number of square feet in that category and then summing across building types.
  3. Constant share averages were derived by weighting the cost per square foot in each building category by a constant fraction in each year. The weights assigned to building types were derived by calculating the average proportion of buildings included in each category over the entire seven year period. They are: 0.065 for elevator buildings; 0.243 for properties with 12 to 24 units; 0.214 for properties with over 24 units; and 0.479 for garden apartments.



trend is somewhat puzzling, given the fact that the overall rate of inflation was relatively high in the early period. It seems unlikely that the data reflect changes in the underlying prices that are associated with building management and administration. Rather, they would appear to represent changes in the level of inputs used. However, since the IREM data measures total expenditures, as opposed to input prices, one can not distinguish between these alternatives.

In light of the trends observed, we decided to use the all-item CPI, as opposed to the IREM figures, to measure price changes for building management and administration. This resulted in a much lower rate of inflation in 1984 (4.2 percent with the CPI versus 11.7 percent with the "constant share" IREM average), but a higher rate of inflation over the entire seven year period (71 percent with the CPI versus 58 percent with the "constant-share" IREM average). Had the IREM data been used, the 1984 PIOC for stabilized apartments would have risen by 0.6 percent.

#### **Parts and Supplies**

Regional data in the Detailed Reports of the CPI track changes in the prices of maintenance and repair commodities, which include 1) paint and wallpaper supplies, tools and equipment; 2) lumber, awnings, glass, and masonry; 3) plumbing, heating and electrical supplies; and 4) miscellaneous supplies. The CPI data reflect prices that are paid by the average homeowner, and may be different from the prices paid by the city's landlords, especially those who make volume purchases. However, it seems reasonable to assume that price trends will be roughly comparable for the two groups.





### **Contracted Maintenance and Repair Services**

As with parts and supplies, the regional data in the CPI Detailed Reports shows an entry for maintenance and repair services. This item includes property maintenance and capital improvements and would seem to be a reasonable choice for the contracted services component. Again, the data apply to homeowners but are the best available.

### **Property Taxes**

Data from the County Assessors' Office were used to collect information on changes in property taxes between 1982 and 1984. In particular, we examined the aggregate assessed values of multifamily residential properties in Los Angeles in 1982, 1983, and 1984. Buildings constructed after 1980, as well as demolitions, were excluded from the analysis. As a result, the data pertain to approximately the same set of properties in every year, or about 101,000 different parcels.

The results are presented in Exhibit H-2. Between 1982 and 1983, the average assessed value per property rose by about 8.8 percent, from \$109,637 to \$119,340. At the same time, the average tax rate declined from 1.098206 to 1.089892 percent.<sup>1</sup> This translates into an average tax increase of about 8.1 percent. Between 1983 and 1984, assessed values rose by about 9.6 percent, from \$119,340 to \$130,787.

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1. The precise rate varies according to assessment district. The rates cited in the text are for Tax Rate Area #16, which is considered "typical" by the County Assessor's Office.



EXHIBIT H-2

CHANGES IN THE ASSESSED VALUE  
OF MULTIFAMILY PROPERTIES: 1982-1984

	<u>Number of Properties</u>	<u>Total Assessed Value (Millions)</u>	<u>Assessed Value Per Property</u>
1982	101,171	\$11,092	\$109,637
1983	100,764	\$12,025	\$119,340
1984	100,490	\$13,143	\$130,787



The average tax rate declined to 1.071987, producing an average tax increase of about 7.8 percent.

These overall averages obviously mask pronounced differences in the experiences of different properties. Proposition 13 limits increases in the assessed values of buildings that do not turnover to a maximum of 2 percent per year. Separate county-wide data on building transfers suggests a turnover rate of 4.9 percent in 1983 and 6.7 in 1984. Assuming that buildings that were not sold experienced a 2 percent increase -- and that transfers were evenly distributed across the stock -- the average increase in assessments at the time of sale was about 141 percent in 1983 and about 114 percent in 1984. This translates into tax increases of roughly 139 and 111 percent, respectively.

These large differences in the experience of properties that did and did not change owners makes use of the "average" increase inappropriate for the cost based index. On the one hand, an 8 percent allowance would do little to compensate recent purchasers for the enormous increase in the assessed values of their properties. On the other hand, applying an 8 percent standard across the board would over-compensate the vast majority of landlords who received no more than a two percent increase. Thus, for purposes of our cost-based index, the two percent maximum has been employed.

#### **Insurance Costs**

Both the California Insurance Services Office and the Insurance Information Institute were contacted regarding possible sources of insurance data. Both organizations indicated that rate increases (especially in recent years) have probably been less important to



insurance costs than increases in building value (replacement costs). Therefore, we have used the Dodge Building Cost Index to estimate annual changes in replacement costs for this component. The Dodge Index reflects construction costs for a "composite" building and the data are presented for the Los Angeles area on a September-to-September basis.

#### **The Impact of Using Alternate Price Data**

As described above, the analysis uses a 2% price increase for property taxes and a management and administration increase based on the CPI rather than IREM. If instead we had used IREM data for management and administrative costs as well as the 8 percent change in property taxes derived from the analysis of one year's tax data, the resulting 1983-84 PIOC would have been 5.388% rather than 3.710%. This would have translated into a cost-based rent adjustment of 2.92% rather than 2.23%. This falls between the 1983-84 Percent of CPI adjustment (2.44%) and the non-shelter CPI adjustment (3.61%).





# APPENDIX I

## TEXT TABLES WITH STANDARD ERRORS

### TRENDS IN RENTS AND RENT-TO-INCOME RATIOS: 1977-1984

	<u>Inside Los Angeles</u>		<u>Outside Los Angeles</u>	
	<u>1977</u>	<u>1984</u>	<u>1977</u>	<u>1984</u>
Average Contract Rents	\$189*** (2)	\$408*** (4)	\$193*** (2)	\$422*** (8)
Average Gross Rents	205*** (2)	444*** (4)	213*** (2)	469*** (9)
Average Gross Rent-to-Income Ratio	.269*** (.003)	.285*** (.004)	.275** (.004)	.297** (.010)
Distribution of Households by Rent-to-Income Ratios				
< 0.20	.397*** (.010)	.352*** (.012)	.403** (.011)	.338** (.030)
.20 - .30	.266 (.009)	.273 (.011)	.248 / (.010)	.240 (.027)
.30 - .40	.158* (.008)	.175* (.010)	.157 (.008)	.172 (.024)
.40+	.179* (.008)	.199* (.010)	.193** (.009)	.250** (.027)

Standard errors are reported in parentheses.

\*\*\* The difference between the 1984 and 1977 ratios is statistically significant at the 99% level of confidence.

\*\* The difference is statistically significant at the 95% confidence level.

\* The difference is statistically significant at the 90% confidence level.



EXHIBIT I-1  
TRENDS IN RENTS AND RENTS-TO-INCOME RATIOS IN  
LOS ANGELES BY HOUSEHOLD TYPE: 1977-84

	Gross Rents		Gross Rent-To-Income Ratio	
	1977	1984	1977	1984
<u>Age of Head</u>				
Under 30	\$207 (3)	\$460 (8)	.267*** (.005)	.301** (.008)
30-61	209 (3)	447 (6)	.240*** (.004)	.267** (.009)
62+	194 (4)	379 (22)	.341 (.007)	.334 (.025)
<u>Household Size</u>				
One	\$185 (2)	\$384 (6)	.294 (.005)	.284 (.007)
Two	228 (3)	485 (9)	.250*** (.006)	.272** (.007)
3-4	213 (4)	485 (9)	.258*** (.007)	.290** (.008)
5+	201 (6)	434 (13)	.213*** (.010)	.321** (.020)
<u>Income</u>				
< \$10,000	\$172 (2)	\$393 (7)	.373*** (.005)	.519** (.013)
\$10-20,000	221 (3)	405 (6)	.197*** (.002)	.370** (.006)
\$20-30,000	262 (6)	448 (8)	.133*** (.003)	.245** (.005)
\$30-40,000	306 (10)	507 (14)	.111*** (.004)	.188** (.006)
\$40,000+	346 (21)	563 (12)	.089*** (.020)	.153** (.003)
<u>Race</u>				
White	\$229 (2)	\$489 (7)	.279 (.004)	.279 (.005)
Black	168 (3)	402 (8)	.292 (.009)	.302 (.010)
Hispanic	168 (3)	371 (6)	.241*** (.006)	.291** (.010)
Other	190 (6)	453 (15)	.217*** (.010)	.272** (.015)
<u>Length of Tenure</u>				
Recent Movers	212 (3)	496 (10)	.272* (.006)	.287* (.009)
1-2 years in unit	207 (3)	495 (9)	.268*** (.005)	.306** (.008)
3-5 years in unit	205 (4)	440 (10)	.247** (.007)	.272** (.008)
6+ years in unit	189 (4)	371 (7)	.285* (.008)	.267* (.008)

\*\*\* Differences between 1977 and 1984 ratios are statistically significant at the 99% confidence level.

\*\* Differences are significant at the 95% confidence level.

\* Differences are significant at the 90% confidence level.



EXHIBIT I-2  
TRENDS IN MOBILITY RATES: 1977 - 1984

	Inside Los Angeles		Outside Los Angeles	
	1977	1984	1977	1984
Average Number of Years	3.56*** (.104)	5.49*** (.130)	2.91*** (.091)	4.44*** (.255)
Distribution by Length of Tenure:				
< One Year	.312*** (.010)	.214*** (.009)	.339*** (.010)	.240*** (.022)
1-2 Years	.356*** (.010)	.235*** (.009)	.376*** (.011)	.291*** (.023)
3-5 Years	.156*** (.008)	.210*** (.009)	.147*** (.008)	.240*** (.022)
6+ Years	.177*** (.008)	.341*** (.010)	.138*** (.008)	.229*** (.021)

---

\*\*\* Difference from 1977 to 1984 is statistically significant at the 99% confidence level.



## EXHIBIT I-3

TRENDS IN MOBILITY BY HOUSEHOLD TYPE:  
1977-1984 (LOS ANGELES ONLY)

Income Class	Mean Length of Tenure		Percent Recent Movers		Percent 6+ Years	
	1977	1984	1977	1984	1977	1984
< \$10,000	3.8*** (.2)	6.2*** (.4)	31.6*** (1.3)	18.1*** (2.5)	20.3*** (1.2)	37.1*** (3.2)
\$10-20,000	3.3*** (.2)	5.6*** (.3)	31.0*** (1.6)	21.3*** (1.8)	14.5*** (1.2)	33.2*** (2.)
\$20-30,000	3.5*** (.3)	4.6*** (.3)	28.0* (3.1)	21.1* (2.2)	16.8*** (2.6)	29.5*** (2.5)
\$30-40,000	3.7** (.5)	5.1** (.6)	29.4* (4.9)	21.4* (3.7)	18.8* (4.2)	28.6* (4.0)
\$40,000 +	2.2*** (.4)	4.7*** (.2)	41.5** (7.7)	25.3** (2.2)	4.9*** (3.4)	31.5*** (2.3)
<u>Race</u>						
White	4.0*** (.2)	5.9*** (.2)	28.9*** (1.2)	21.7*** (1.2)	20.9*** (1.1)	36.5*** (1.4)
Black	3.3*** (.2)	5.4*** (.3)	34.2*** (2.6)	20.1*** (2.0)	16.8*** (2.0)	32.3*** (2.3)
Hispanic	2.7*** (.2)	5.1*** (.3)	34.4*** (2.2)	21.1*** (2.1)	11.6*** (1.5)	31.3*** (2.4)
Other	2.6** (.3)	3.8** (.4)	34.6* (3.8)	25.6* (3.4)	9.4*** (2.3)	24.4*** (3.4)
<u>Household Size</u>						
One	4.2*** (.2)	6.5*** (.2)	28.4*** (1.4)	19.6*** (1.4)	23.3*** (1.3)	41.4*** (1.8)
Two	3.2*** (.2)	5.3*** (.2)	37.0*** (1.8)	23.1*** (1.7)	15.7*** (1.4)	33.4*** (1.9)
3-4	2.7*** (.2)	4.3*** (.2)	28.7** (2.1)	23.2** (1.8)	9.1*** (1.4)	24.3*** (1.8)
5 +	2.8*** (.3)	5.6*** (.4)	30.0*** (4.2)	16.2*** (2.8)	11.7*** (2.9)	34.7*** (3.7)
<u>Age of Head</u>						
Under 30	1.4*** (.1)	2.5*** (.2)	48.4*** (1.8)	39.0*** (2.3)	2.0*** (.5)	8.8*** (1.3)
31-61	3.4*** (.1)	5.2*** (.1)	26.9*** (1.3)	18.0*** (1.1)	16.8*** (1.1)	34.3*** (1.4)
62 +	7.7*** (.3)	10.4*** (.4)	12.6*** (1.5)	6.2*** (1.3)	46.1*** (2.3)	66.8*** (2.6)

\*\*\* Difference between the 1984 and 1977 figures is statistically significant at the 99% confidence level.

\*\* Difference is statistically significant at the 95% confidence level.

\* Difference is statistically significant at the 90% confidence level.





EXHIBIT I-4

TRENDS IN CROWDING, HOUSING QUALITY  
AND NEIGHBORHOOD RATINGS: 1977-1984

	Inside Los Angeles		Outside Los Angeles	
	1977	1984	1977	1984
Proportion Crowded	.093*** (.006)	.158*** (.008)	.068*** (.006)	.165*** (.019)
Average Persons Per Room	.672*** (.009)	.796*** (.014)	.624*** (.014)	.801*** (.033)
Proportion Perceived In Need of Repair	.125*** (.007)	.156*** (.008)	.048*** (.005)	.159*** (.018)
Incomplete Plumbing	.014*** (.002)	.006*** (.002)	.007 (.002)	.014 (.006)
Inadequate Heat	.108 (.006)	.100 (.006)	.031*** (.004)	.102*** (.015)
3 or More Minor Defects	.016*** (.003)	.070*** (.005)	.013*** (.002)	.061*** (.012)
Neighborhood Rating				
Excellent	.149 (.008)	.155 (.008)	.196 (.009)	.212 (.020)
Good	.443* (.010)	.424* (.010)	.466* (.011)	.510* (.025)
Fair	.320 (.010)	.318 (.010)	.278** (.010)	.228** (.021)
Poor	.085** (.006)	.102** (.006)	.059 (.005)	.049 (.011)

\*\*\* Differences between 1984 and 1977 figures are statistically significant at the 99% confidence level.

\*\* Differences are statistically significant at the 95% confidence level.

\* Differences are statistically significant at the 90% confidence level.



# EXHIBIT I-5

## SUMMARY OF 1983 BUILDING FINANCES

	Properties		Units <sup>1</sup>	
	Inside LA	Outside LA	Inside LA	Outside LA
Gross Income	\$29,840 (4,421) <sup>2</sup>	\$42,999 (15,953)	\$3,262** (110)	\$4,853** (724)
Total O&M costs	\$12,977 (2,365)	\$14,098 (4,359)	\$1,418 (73)	\$1,591 (160)
Net Operating Income	\$16,863 (2,181)	\$28,900 (11,648)	\$1,843** (108)	\$3,262** (589)
Total Financing Costs <sup>3,4</sup>	\$11,841 (1,695)	\$15,448 (3,359)	\$1,273 (121)	\$1,707 (256)
Pre-Tax Cash Flow <sup>4</sup>	\$5,123 (1,214)	\$14,246 (9,962)	\$ 551 (82)	\$1,574 (679)

\*\* Differences are statistically significant at the 95 percent confidence level.

1. Unit averages were derived by weighting the unit costs of every property by the number of units it contained.
2. Standard errors in parentheses.
3. Financing costs include payments for interest and principal. They have been adjusted to take out the owner's share of these expenses for owner-occupied buildings. Without this adjustment, financing costs per unit would have been \$1303 in Los Angeles and \$1722 in surrounding areas. Similarly, average profit per unit would have been \$520 and \$1559, respectively.
4. Information on financing costs was sometimes missing, so that pre-tax cash flow could not be calculated for the full sample of properties. As a result, there is a small discrepancy between the reported average values of net operating income, financing costs, and pre-tax cash flow.



EXHIBIT I-6

BREAKDOWN OF AVERAGE INCOME AND EXPENSES PER UNIT BY  
BUILDING AND LANDLORD TYPE: 1983 LOS ANGELES

	<u>Gross Income</u>	<u>Total O&amp;M Costs</u>	<u>Net Operating Income</u>	<u>Total Financing Costs</u>	<u>Pre-Tax Cash Flow</u>
Building Size					
< 6 (n=115)	\$3,010 (161)	\$1,210 (60)	\$1,799 (151)	\$ 993 (143)	\$ 776 (151)
6-11 (n=54)	\$3,294 (142)	\$1,339 (59)	\$1,956 (127)	\$1,384 (207)	\$ 608 (210)
12+ (n=40)	\$3,365 (184)	\$1,518 (109)	\$1,847 (171)	\$1,316 (193)	\$ 499 (124)
Utility Inclusion <sup>1</sup>					
Tenants Pay (n=184)	\$3,420 (118)	\$1,410 (69)	\$2,010 (99)	\$1,391 (138)	\$ 588 (127)
Landlords Pay (n=24)	\$2,941 (217)	\$1,436 (173)	\$1,505 (159)	\$1,048 (194)	\$ 480 (102)
Date of Purchase					
Before 1978 (n=148)	\$3,113 (148)	\$1,229 (82)	\$1,884 (117)	\$ 752 (97)	\$1,106 (95)
After 1978 (n=60)	\$3,460 (170)	\$1,670 (74)	\$1,789 (189)	\$1,901 (401)	-\$ 119 (247)
Residence of Owner					
Owner Lives on Property (n=51)	\$2,712 (220)	\$1,079 (195)	\$1,633 (163)	\$1,471 (238)	\$ 271 (249)
Owner Lives Elsewhere (n=157)	\$3,342 (121)	\$1,468 (71)	\$1,874 (126)	\$1,246 (134)	\$ 589 (97)
Number of Units Owned By Landlord					
Under 5 (n=71)	\$3,064 (193)	\$1,265 (82)	\$1,799 (190)	\$1,069 (169)	\$ 670 (237)
5-14 Units (n=78)	\$3,041 (131)	\$1,279 (69)	\$1,761 (119)	\$1,347 (182)	\$ 403 (185)
Over 15 Units (n=59)	\$3,373 (156)	\$1,493 (101)	\$1,880 (161)	\$1,275 (173)	\$ 587 (114)

1. If the landlord pays for all the gas and/or all the electricity, the building has been designated "master-metered".



## EXHIBIT I-6

(Continued)

LMPA <sup>2</sup>	<u>Gross Income</u>	<u>Total O&amp;M Costs</u>	<u>Net Operating Income</u>	<u>Total Financing Costs</u>	<u>Pre-Tax Cash Flow</u>
One (n=15)	\$3,045 (258)	\$1,435 (161)	\$1,610 (270)	\$1,341 (562)	\$ 269 (555)
Two (n=42)	\$2,702 (155)	\$1,288 (109)	\$1,414 (131)	\$ 931 (119)	\$ 506 (185)
Three (n=61)	\$2,945 (195)	\$1,240 (124)	\$1,705 (155)	\$1,058 (170)	\$ 658 (193)
Four (n=38)	\$3,785 (265)	\$1,613 (137)	\$2,172 (174)	\$1,959 (297)	\$ 200 (208)
Five (n=28)	\$4,502 (345)	\$1,690 (164)	\$2,812 (248)	\$1,903 (352)	\$ 924 (406)
Six (n=6)	(3,351 (321)	\$1,502 (180)	\$1,850 (463)	\$ 999 (415)	\$ 851 (89)

---

2. LMPA was missing in 18 cases.





EXHIBIT I-7

FINANCIAL RATIOS BY BUILDING AND  
LANDLORD TYPE: 1983 LOS ANGELES

	<u>Operating Costs/Income</u>	<u>Financing Costs/Income</u>	<u>Cash Flow/Income</u>
Building Size			
< 6 (n=115)	.40 (.02)	.39 (.04)	.26 (.05)
6-11 (n=54)	.41 (.02)	.42 (.06)	.18 (.07)
12+ (n=40)	.45 (.03)	.39 (.04)	.15 (.04)
Utility Inclusion <sup>1</sup>			
Tenants Pay (n=184)	0.41 (.02)	0.41 (.03)	0.17 (.04)
Landlords Pay (n=24)	0.49 (.03)	0.36 (.06)	0.16 (.04)
Date of Purchase			
Before 1978 (n=148)	0.39 (.02)	0.24 (.03)	0.36 (.03)
After 1978 (n=60)	0.48 (.02)	0.55 (.09)	-0.06 (.07)
Residence of Owner			
Owner Lives on Property (n=51)	0.40 (.06)	0.54 (.08)	0.10 (.10)
Owner Lives Elsewhere (n=157)	0.44 (.03)	0.37 (.03)	0.18 (.03)
Number of Units Owned By Landlord			
Under 5 (n=71)	0.41 (.03)	0.35 (.06)	0.22 (.07)
5-14 Units (n=78)	0.42 (.02)	0.44 (.06)	0.13 (.06)
Over 15 Units (n=59)	0.44 (.03)	0.38 (.04)	0.17 (.04)

1. If the landlord pays for all the gas and/or all the electricity, the building has been designated "master-metered".



## EXHIBIT I-7

(Continued)

LMPA <sup>2</sup>	<u>Operating Costs/Income</u>	<u>Financing Costs/Income</u>	<u>Cash Flow/Income</u>
One (=15)	0.47 (.06)	0.44 (.18)	0.09 (.18)
Two (n=42)	0.48 (.03)	0.34 (.04)	0.19 (.07)
Three (n=61)	0.42 (.03)	0.36 (.05)	0.22 (.06)
Four (n=38)	0.43 (.03)	0.52 (.06)	0.05 (.06)
Five (n=28)	0.38 (.02)	0.42 (.08)	0.21 (.09)
Six (n=6)	0.45 (.09)	0.30 (.10)	0.25 (.02)

---

2. LMPA was missing in 18 cases.



EXHIBIT I-8  
1977-1983 TRENDS IN INCOME AND EXPENDITURES  
PER UNIT: LOS ANGELES ONLY

	<u>1977</u>	<u>1983</u>	<u>% Change</u>
All Buildings (n=8 )			
Gross Income	\$1923 (115)	\$3184 (145)	+ 66%
O&M Expenditures	943 (63)	1283 (61)	+ 36%
Net Operating Income	980 (131)	1900 (118)	+ 94%
Financing Expenses	908 (203)	806 (116)	- 11%
Pre-Tax Cash Flow	79 (231)	1113 (155)	+1309%
Small Buildings (<5 Units) (n=54)			
Gross Income	1858 (141)	2992 (231)	+ 61%
O&M Expenditures	1011 (106)	1219 (102)	+ 21%
Net Operating Income	847 (134)	1773 (184)	+ 109%
Financing Expenses	784 (135)	651 (120)	- 17%
Pre-Tax Cash Flow	78 (156)	1156 (228)	+1382%
Larger Buildings (6+ Units) (n=35)			
Gross Income	1949 (150)	3256 (177)	+ 67%
O&M Expenditures	917 (78)	1314 (75)	+ 43%
Net Operating Income	1032 (172)	1942 (147)	+ 88%
Financing Expenses	973 (278)	879 (156)	- 10%
Pre-Tax Cash Flow	82 (315)	1092 (200)	+1232%



# EXHIBIT I-9

## BREAKDOWN OF EXPENDITURE WEIGHTS BY UTILITY INCLUSION: LOS ANGELES ONLY

	<u>All Buildings</u>	<u>Tenants Pay Utilities</u>	<u>Landlord Pays Utilities</u>
Salaries	0.185 (.038)	0.132** (.010)	0.289** (.063)
Utilities	0.224 (.009)	0.209 (.010)	0.254 (--)
Electricity	0.074 (.014)	0.084 (.011)	0.059 (.033)
Gas	0.115 (.009)	0.077 (.007)	0.181 (--)
Water & Sewer	0.034 (.008)	0.048** (.007)	0.013** (.013)
Management & Administration	0.075 (.009)	0.079 (.011)	0.067 (.014)
Parts & Supplies	0.065 (.007)	0.077*** (.007)	0.040*** (.002)
Contract Maintenance	0.217 (.029)	0.248 (.014)	0.158 (.055)
Taxes & Fees	0.158 (.011)	0.174*** (.009)	0.124*** (.011)
Insurance	0.078 (.002)	0.081 (.004)	0.068 (--)

\*\* Figures are statistically significantly different at the 95% level of confidence.

\*\*\* Figures are statistically significantly different at the 99% level of confidence.





# EXHIBIT I-10

## 1983 EXPENDITURE WEIGHTS BY BUILDING AND LANDLORD TYPE (EXCLUDING MASTER-METERED BUILDING)

	Building Size			LMPA						Residence of Owner		Date of Purchase	
	<6 Units	6-11 Units	12+ Units	#1	#2	#3	#4	#5	#6	On Site	Off Site	Pre- 1978	Post- 1978
Salaries	0.065 (.013)	0.084 (.016)	0.185 (.017)	0.162 (.046)	0.141 (.036)	0.114 (.018)	0.142 (.017)	0.124 (.019)	0.028 (.025)	.077 (.039)	.140 (.011)	.132 (.017)	.134 (.011)
Utilities	0.166 (.013)	0.234 (.022)	0.214 (.017)	0.212 (.018)	0.214 (.037)	0.248 (.022)	0.173 (.011)	0.183 (.018)	0.196 (.048)	.202 (.024)	.209 (.012)	.233 (.015)	.168 (.011)
Electricity	0.046 (.015)	0.076 (.010)	0.102 (.018)	.122 (.045)	.066 (.028)	.103 (.024)	.058 (.009)	.076 (.023)	.056 (.033)	.073 (.012)	.086 (.012)	.096 (.016)	.065 (.012)
Gas	0.012 (.002)	0.075 (.011)	0.101 (.012)	.042 (.019)	.106 (.030)	.084 (.013)	.076 (.015)	.081 (.012)	.049 (.029)	.055 (.011)	.080 (.009)	.079 (.010)	.072 (.012)
Water & Sewer	0.108 (.009)	0.082 (.011)	0.011 (.004)	.047 (.018)	.042 (.008)	.060 (.010)	.038 (.010)	.026 (.007)	.091 (.033)	.073 (.018)	.043 (.005)	.058 (.007)	.031 (.007)
Management	0.056 (.009)	0.060 (.011)	0.097 (.019)	.061 (.022)	.034 (.005)	.075 (.017)	.119 (.031)	.084 (.019)	.082 (.032)	.054 (.015)	.082 (.012)	.059 (.008)	.112 (.023)
Parts & Supplies	0.108 (.016)	0.063 (.011)	0.071 (.010)	.026 (.011)	.127 (.020)	.079 (.014)	.076 (.009)	.065 (.016)	.054 (.016)	.105 (.017)	.073 (.007)	.084 (.008)	.066 (.012)
Contract Maintenance	0.259 (.019)	0.315 (.030)	0.211 (.020)	.291 (.067)	.259 (.035)	.247 (.027)	.238 (.025)	.237 (.035)	.342 (.069)	.243 (.027)	.249 (.015)	.257 (.014)	.234 (.025)
Taxes	0.243 (.013)	0.163 (.016)	0.150 (.014)	.175 (.034)	.129 (.013)	.148 (.014)	.189 (.021)	.219 (.025)	.232 (.039)	.199 (.021)	.171 (.010)	.151 (.008)	.212 (.020)
Insurance	0.103 (.008)	0.081 (.005)	0.072 (.007)	.074 (.013)	.096 (.010)	.089 (.009)	.061 (.005)	.088 (.012)	.066 (.014)	.120 (.009)	.076 (.005)	.085 (.006)	.075 (.008)



THE LOS ANGELES RENT STABILIZATION SYSTEM:  
HOUSING PRODUCTION AND MARKET PERFORMANCE

APPENDICES

Part 3



## APPENDIX 3

### EXHIBITS

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## APPENDIX 3

Appendix Three explains the methodologies utilized by the Rent Stabilization Division staff, consultants, and contractors in preparing and analyzing data sources referred to throughout the 1984 Rental Housing Study. Methodologies are indicated for the following data sources:

- A. Income/Expense sources
- B. Institute of Real Estate Management (IREM)
- C. Franchise Tax Board (FTB)
- D. New Construction sources
- E. Vacancy Rates
- F. Sampling of Capital Improvement Applications

### A. INCOME/EXPENSE DATA

Income/Expense data used in this study were derived from a number of sources:

- 1) The Landlord Survey: A survey of 262 Los Angeles landlords and 49 landlords in comparison cities conducted by HRS&A during the fall of 1984;
- 2) The Mobile Home Survey: A survey of 15 mobile home park owners and 200 mobile home residents conducted by HRS&A during the fall of 1984;
- 3) The Institute of Real Estate Management (IREM) annual Income/Expense Analysis reports;
- 4) The Franchise Tax Board: An aggregate summary of rental income and expenses from the tax filings



of a sampling of 10,000 landlords subject to the Rent Stabilization Ordinance (RSO) in the City of Los Angeles and 100 landlords in 6 neighboring cities not subject to rent regulations as reported to the Franchise Tax Board (FTB) of the State of California, the state agency which collects and publishes annually aggregate data on various classes of tax filings. The income expense data from the FTB reported in this study was provided under a contract between the City of Los Angeles and the state of California.

The survey methods are detailed in Appendix 2. The IREM and FTB data are explained below.

#### B. IREM

The Institute of Real Estate Management is a national professional organization of property managers. IREM annually publishes an Income/Expense Analysis of Apartments managed by IREM members, plus additional apartment data supplied to IREM by non-members.

The IREM income/expense analyses include only properties with 12 or more units. The information is reported on a national basis as well as by regions and by metropolitan areas. IREM reports contain "linked" properties' income/expenses in successive years for those properties for which IREM members have reported for four



consecutive years. But there are insufficient numbers of such properties in individual cities for statistically valid linked data for each city , so the linked IREM year-to-year comparisons are available only on a national basis.

The IREM reports by region and by area or municipality do not reflect the same properties from year to year. However, to the extent that IREM membership remains relatively constant and that the same contributors report data from year to year, or that new contributors-members' income/expense data reflect basically similar ratios to those who reported in previous years, the successive annual IREM reports probably indicate rather accurately the changing costs and cost ratios in the apartment industry.

#### Building Categories

IREM income/expense data are reported by various categories of buildings;

- a) elevator buildings
- b) low rise 12-24 units
- c) low rise 24+ units
- d) garden apartments
- e) furnished units (also reported by type)

IREM's annual reports list the number of properties and the number of units for each category of building (see Exhibits 3.B.1 and 3.B.2). Since the primary purpose of the





## EXHIBIT 3.B.1

Los Angeles IREM Income/Expense Details  
(Elevator Buildings, Low Rise 12-24 Units), 1984

UNFURNISHED BUILDINGS	ELEVATOR BUILDINGS								LOW RISE—12 TO 24 UNITS							
	LOS ANGELES, CA								LOS ANGELES, CA							
	17 BUILDINGS 1,388,416 RENTABLE SQUARE FEET				1,936 APARTMENTS				91 BUILDINGS 1,241,389 RENTABLE SQUARE FEET				1,601 APARTMENTS			
	BLDGS.	---% OF GPTI---			---\$/SQ.FT.---				BLDGS.	---% OF GPTI---			---\$/SQ.FT.---			
INCOME		MED	LCM	HIGH	MED	LCM	HIGH			MED	LOW	HIGH	MED	LOW	HIGH	
RENTS-APARTMENTS	( 17)	99.2%	98.3%	99.4%	7.18	6.12	8.17		( 91)	99.8%	99.4%	100.0%	6.41	5.33	7.30	
RENTS-GARAGE/PARKING	( 5)	1.2			.08				( 9)	.4			.04			
RENTS-STORES/OFFICES	( 1)	.4			.03				( 1)							
GROSS POSSIBLE RENTS	( 17)	99.3%	98.9%	99.4%	7.18	6.20	8.17		( 91)	99.8%	99.4%	100.0%	6.41	5.33	7.30	
VACANCIES/RENT LOSS	( 17)	2.5	1.5	9.3	.22	.11	.66		( 87)	3.3	1.8	6.8	.22	.11	.38	
TOTAL RENTS COLLECTED	( 17)	96.8	90.0	97.8	6.61	5.76	7.71		( 91)	96.6	92.7	98.2	6.12	5.08	7.14	
OTHER INCOME	( 17)	.7	.6	1.1	.06	.03	.09		( 48)	.6	.4	.8	.04	.02	.06	
GROSS POSSIBLE INCOME	( 17)	100.0%	100.0%	100.0%	7.30	6.27	8.22		( 91)	100.0%	100.0%	100.0%	6.41	5.33	7.37	
TOTAL COLLECTIONS	( 17)	97.5	90.7	98.5	6.73	5.78	7.77		( 91)	96.8	93.2	98.5	6.16	5.12	7.19	
EXPENSES																
MANAGEMENT FEE	( 17)	4.9	3.8	5.0	.22	.26	.42		( 87)	5.2	4.6	5.9	.36	.28	.41	
OTHER ADMINISTRATIVE**	( 17)	2.1	.6	4.4	.17	.03	.38		( 76)	1.0	.4	2.0	.06	.03	.12	
SUBSIDIARY ADMINISTRATION	( 17)	6.1%	5.5%	9.3%	.44	.35	.74		( 91)	6.2%	5.4%	6.7%	.40	.30	.49	
SUPPLIES	( 17)	.3	.2	.8	.03	.01	.06		( 81)	.6	.2	1.0	.04	.01	.07	
HEATING FUEL-CA ONLY*	( 2)	8.0			.76				( 4)	1.5			.11			
CA & APTS.*	( 5)	2.2			.13				( 11)	2.4	1.9	3.4	.13			
ELECTRICITY-CA ONLY*	( 11)	2.7	1.2	3.0	.15	.08	.25		( 72)	1.4	1.0	2.2	.09	.05	.15	
CA & APTS.*	( 6)	5.4			.27				( 15)	3.1	1.3	4.4	.20	.08	.33	
WATER/SEWER-CA ONLY*	( 1)								( 6)	1.0			.08			
CA & APTS.*	( 17)	1.5	1.3	2.0	.12	.08	.16		( 85)	1.5	1.0	2.2	.09	.06	.13	
GAS-----CA ONLY*	( 7)	3.2			.26				( 54)	2.7	2.0	3.6	.18	.11	.26	
CA & APTS.*	( 6)	3.8			.23				( 23)	3.3	1.9	4.5	.18	.11	.25	
BUILDING SERVICES	( 13)	1.3	.9	1.5	.09	.08	.11		( 76)	1.1	.6	1.6	.07	.04	.10	
OTHER OPERATING	( 12)	.2	.2	2.7	.01	.01	.17		( 40)	.2	.2	.6	.02	.01	.04	
SUBSIDIARY OPERATING	( 17)	9.7%	8.5%	13.8%	.73	.61	.98		( 91)	7.6%	6.1%	10.6%	.47	.36	.68	
SECURITY**	( 8)	2.0			.15				( 1)	.1			.01			
GROUND MAINTENANCE**	( 15)	.8	.4	1.2	.05	.02	.09		( 83)	1.0	.6	1.6	.07	.04	.10	
MAINTENANCE-REPAIRS	( 17)	4.2	3.0	6.6	.29	.16	.51		( 91)	5.6	3.2	8.3	.37	.20	.49	
PAINTING/DECORATING**	( 17)	2.9	1.8	3.3	.18	.14	.25		( 89)	2.5	1.3	4.2	.16	.07	.27	
SUBSIDIARY MAINTENANCE	( 17)	10.4%	5.6%	11.7%	.76	.33	.99		( 91)	9.4%	6.2%	13.0%	.58	.41	.79	
REAL ESTATE TAXES	( 17)	3.6	3.1	5.7	.22	.23	.35		( 91)	4.5	3.7	6.6	.28	.21	.48	
OTHER TAX/FEE/PERMIT	( 14)	.2	.1	.3	.01	.01	.02		( 79)	.1	.1	.3	.01	.01	.02	
INSURANCE	( 17)	.9	.7	1.3	.06	.05	.08		( 91)	2.0	1.6	2.4	.12	.11	.15	
SUBSIDIARY TAX-INSURANCE	( 17)	6.2%	4.4%	7.3%	.41	.36	.47		( 91)	7.2%	5.8%	9.1%	.46	.35	.62	
RECREATION/AMENITIES**	( 6)	.6			.04				( 22)	.9	.8	1.0	.06	.05	.07	
OTHER PAYROLL**	( 13)	5.0	3.9	7.0	.36	.23	.58		( 56)	5.8	5.0	6.8	.37	.31	.46	
TOTAL ALL EXPENSES	( 17)	34.5%	31.2%	43.5%	2.24	2.14	3.22		( 91)	36.5%	30.5%	42.7%	2.34	1.91	2.86	
NET OPERATING INCOME	( 17)	53.1%	48.6%	66.9%	3.57	3.09	4.64		( 91)	59.0%	51.0%	66.2%	3.70	2.96	4.54	
PAYROLL RECAP**	( 17)	5.0	3.5	8.5	.28	.23	.47		( 70)	5.8	5.0	6.9	.38	.30	.48	

(See EXHIBITS 3-16 and 3-17 in RENT STABILIZATION: IMPACTS AND ALTERNATIVES for weighted IREM data.)



## EXHIBIT 3.B.2

Los Angeles IREM Income/Expense Details  
(Low Rise 25 or more Units, Garden Type Buildings), 1984

	LOW RISE—25 OR MORE UNITS							GARDEN TYPE BUILDINGS						
	LOS ANGELES, CA							LOS ANGELES, CA						
	63 BUILDINGS 2,317,422 RENTABLE SQUARE FEET			2,913 APARTMENTS				70 BUILDINGS 4,681,883 RENTABLE SQUARE FEET			5,442 APARTMENTS			
	BLDGS.	% OF GPTI			\$/SQ.FT.			BLDGS.	% OF GPTI			\$/SQ.FT.		
		MED	LOW	HIGH	MED	LOW	HIGH		MED	LOW	HIGH	MED	LOW	HIGH
UNFURNISHED BUILDINGS														
INCOME														
RENTS-APARTMENTS	( 63)	99.3%	98.5%	99.8%	6.35	5.51	7.16	( 70)	98.6%	97.6%	99.5%	5.92	5.18	6.90
RENTS-GARAGE/PARKING	( 6)	1.0			.06			( 16)	1.5	.6	2.1	.06	.03	.10
RENTS-STORES/OFFICES	( 1)	.7			.09			( 2)	.5			.04		
GROSS POSSIBLE RENTS	( 63)	99.3%	98.8%	99.8%	6.35	5.51	7.16	( 70)	99.0%	98.4%	99.6%	5.99	5.18	6.90
VACANCIES/RENT LOSS	( 57)	3.4	2.0	5.6	.22	.11	.42	( 64)	4.6	2.3	7.0	.28	.12	.46
TOTAL RENTS COLLECTED	( 63)	95.9	93.7	97.4	6.11	5.11	6.93	( 70)	94.9	91.4	97.4	5.65	4.78	6.85
OTHER INCOME	( 49)	.8	.6	1.5	.05	.03	.10	( 57)	1.1	.8	2.1	.08	.05	.12
GROSS POSSIBLE INCOME	( 63)	100.0%	100.0%	100.0%	6.35	5.55	7.36	( 70)	100.0%	100.0%	100.0%	6.04	5.20	6.97
TOTAL COLLECTIONS	( 63)	97.1	94.4	98.3	6.11	5.14	6.96	( 70)	96.2	93.5	98.8	5.66	4.88	6.91
EXPENSES														
MANAGEMENT FEE	( 58)	4.8	4.0	5.7	.32	.24	.37	( 66)	5.2	4.6	5.9	.30	.26	.40
OTHER ADMINISTRATIVE**	( 53)	1.7	.7	4.4	.11	.04	.31	( 62)	2.8	.8	6.2	.19	.05	.36
SUBDIAL ADMINISIA	( 62)	5.8%	4.8%	8.4%	.40	.29	.62	( 70)	7.5%	5.6%	10.2%	.47	.34	.63
SUPPLIES	( 57)	.6	.3	1.3	.04	.02	.09	( 57)	.3	.1	1.0	.02	.01	.06
HEATING FUEL-CA ONLY*	( 4)	1.8			.18			( 7)	1.1			.08		
CA & APTS.*	( 15)	2.7	1.9	3.2	.23	.11	.25	( 9)	2.6			.15		
ELECTRICITY--CA ONLY*	( 47)	2.0	1.3	2.4	.12	.08	.15	( 55)	1.2	.9	1.8	.07	.05	.11
CA & APTS.*	( 16)	5.6	2.1	5.9	.39	.15	.43	( 13)	5.3	.9	9.1	.27	.06	.47
WATER/SEWER--CA ONLY*	( 4)	2.1			.15			( 3)	2.7			.13		
CA & APTS.*	( 59)	1.9	1.1	2.5	.12	.07	.18	( 67)	1.8	1.1	2.3	.10	.08	.13
GAS-----CA ONLY*	( 38)	2.1	1.0	2.9	.12	.06	.20	( 44)	2.6	.7	3.8	.18	.04	.23
CA & APTS.*	( 19)	2.7	2.0	3.5	.18	.11	.23	( 20)	2.6	2.0	3.3	.14	.12	.15
BUILDING SERVICES	( 50)	1.0	.7	1.4	.06	.04	.09	( 54)	1.5	.9	2.1	.09	.05	.11
OTHER OPERATING	( 28)	.4	.1	1.5	.02	.00	.08	( 45)	.4	.1	1.0	.02	.01	.06
SUBDIAL OPERATING	( 63)	8.5%	6.9%	11.4%	.54	.42	.78	( 70)	7.6%	5.3%	11.7%	.50	.35	.70
SECURITY**	( 9)	.2			.01			( 14)	.6	.2	.8	.04	.01	.05
GROUNDS MAINTENANCE**	( 61)	.8	.5	1.3	.06	.03	.08	( 67)	1.4	1.0	2.6	.09	.06	.15
MAINTENANCE-REPAIRS	( 62)	5.0	2.5	7.3	.31	.19	.46	( 69)	5.3	3.5	7.9	.21	.21	.48
PAINTING/DECORATING**	( 62)	2.7	1.6	4.4	.17	.10	.27	( 69)	2.3	1.5	4.3	.14	.08	.27
SUBDIAL MAINTENANCE	( 63)	9.2%	6.0%	11.8%	.60	.38	.75	( 70)	10.4%	7.1%	15.0%	.61	.43	.84
REAL ESTATE TAXES	( 63)	4.1	3.5	5.5	.27	.23	.38	( 70)	4.5	3.2	5.4	.24	.19	.36
OTHER TAX/FEE/PERMIT	( 53)	.1	.1	.2	.01	.01	.02	( 54)	.2	.1	.3	.01	.00	.02
INSURANCE	( 63)	1.6	1.1	2.1	.10	.07	.14	( 70)	1.5	1.1	2.1	.09	.07	.13
SUBDIAL TAX-INSURANCE	( 63)	6.2%	5.1%	7.8%	.41	.31	.50	( 70)	6.6%	5.2%	8.2%	.38	.30	.46
RECREATL/AMENITIES**	( 29)	.6	.5	.7	.04	.03	.05	( 30)	.6	.3	.9	.03	.02	.05
OTHER PAYROLL**	( 43)	3.9	3.1	5.2	.25	.18	.31	( 49)	4.7	3.8	6.4	.31	.19	.38
TOTAL ALL EXPENSES	( 63)	34.9%	28.7%	42.0%	2.25	1.79	2.83	( 70)	37.1%	31.7%	46.0%	2.25	1.81	2.92
NET OPERATING INCOME	( 63)	58.8%	52.0%	69.4%	3.54	2.99	4.61	( 70)	58.4%	46.5%	67.1%	3.56	2.38	4.47
PAYROLL RECAP**	( 58)	4.4	3.3	5.6	.27	.20	.40	( 57)	5.3	4.2	8.2	.36	.28	.46

(See EXHIBITS 3-16 and 3-17 in RENT STABILIZATION: IMPACTS AND ALTERNATIVES for weighted IREM data.)



IREM data is to enable property managers to compare the efficiency of their operating expenses in relation to the industry, the data are reported out as a percentage of Gross Possible Total Income (GPTI). GPTI is indicated in two forms, 1) as 100.00% against which all other data elements are some proportion of 100%, and 2) in dollars per square foot of rentable space. The aggregating of the data in these two standard categories enables operators of varying size buildings to compare their operating costs, both as percentages of GPTI and in terms of dollars per square foot, to the IREM median, low and high quartile figures irrespective of differences among the reporting members with respect to building size, actual income received and expenses incurred. The data reported in dollars per square foot enables year to year comparisons as costs vary according to inflation.

Thus, while it is possible to utilize IREM data for comparison from one year to another, or for comparisons between cities, caution must be exercised. In addition to the constantly changing IREM membership, which changes properties being reported from year to year, the IREM categories for cities do not necessarily match conventional geographical boundaries. For example, IREM includes under its Los Angeles category properties located throughout the greater Los Angeles area, including properties located in unincorporated portions of Los Angeles County as well as in



nearby cities like Beverly Hills, Palos Verdes, or Santa Monica, some of which have rent regulation and some which do not. IREM data cannot distinguish between properties that are under rent regulation and those that are excluded from regulation, or properties where some of the units are subject to rent regulation and others are not.

To some extent, the reports of the various types of properties reported in the annual IREM income/expense analyses can be aggregated by area (Los Angeles) and weighted to approximate gross property expenses (as was done in the HRS&A sections of the study). But such restructured data can only approximate the actual rental housing market in an area. Despite these limitations, IREM data are commonly used as a general indicator of landlord costs and income/expense ratios throughout the country, and absent any proof to the contrary, IREM data probably reflect more or less accurately changes in profitability of all landlords from year to year. The landlord survey results and the FTB data complement the IREM data which has been until now the only publicly available source of information on cost changes in the rental housing industry in the Los Angeles area.







### C. FRANCHISE TAX BOARD (FTB)

The Franchise Tax Board of the State of California is the state agency responsible for the collection of personal, partnership and corporation taxes in California. Its function is similar to that of the Federal Internal Revenue Service (IRS). The FTB uses forms similar to those used by the IRS. In many instances tax filers are permitted to use the federal forms for reporting taxable California income. Among the forms acceptable to the FTB is Schedule E, the form used by the IRS for reporting income and expenses of rental property (Exhibit 3.C.1).

Since the IREM data, as indicated above, has inherent limitations for examining landlord income and expenses with respect to properties in Los Angeles subject to rent regulation, and since the FTB regularly provides published aggregate data on various categories of tax filings, CDD contacted the FTB to determine the feasibility of having the FTB provide the City with aggregate data on properties in the City of Los Angeles which are subject to the RSO.

#### Test of 100 Los Angeles Landlords

A test was conducted in the spring of 1984 by the FTB, using the City's rent registration file, which had been supplied to the FTB after approval by the members of the



## Schedule E Form

OMB No. 1545-0074

(From rents and royalties, partnerships, estates, and trusts, etc.)

1983  
12

Name(s) as shown on Form 1040

**Your social security number**

**PART I.—Rent and Royalty Income or Loss**

- 1 Are any of the expenses listed below for a vacation home or other recreational unit (see Instructions)? . . . . . ☐ Yes ☐ No
- 2 If you checked "Yes" to question 1, did you or a member of your family occupy the vacation home or other recreational unit for more than the greater of 14 days or 10% of the total days rented at fair rental value during the tax year? . . . . . ☐ Yes ☐ No
- Description of Properties.** (Show kind and location for each.)

Property A

Property B

Property C

### Rental and Royalty Income

Rental and Royalty Income		Properties			Totals
		A	B	C	(Add columns A, B, and C)
3 a	Rents received				3
b	Royalties received				
<b>Rental and Royalty Expenses</b>					
4	Advertising	4			
5	Auto and travel	5			
6	Cleaning and maintenance	6			
7	Commissions	7			
8	Insurance	8			
9	Interest	9			
10	Legal and other professional fees	10			
11	Repairs	11			
12	Supplies	12			
13	Taxes (Do <b>not</b> include Windfall Profit Tax here. See Part III, line 37.)	13			
14	Utilities	14			
15	Wages and salaries	15			
16	Other (list) ▶				
17	Total expenses other than depreciation and depletion. Add lines 4 through 16	17			17
18	Depreciation expense (see Instructions), or depletion	18			18
19	Total. Add lines 17 and 18	19			
20	Income or (loss) from rental or royalty properties. Subtract line 19 from line 3a (rents) or 3b (royalties)	20			
21	Add properties with profits on line 20, and write the total profits here				21
22	Add properties with losses on line 20, and write the total (losses) here				22
23	Combine amounts on lines 21 and 22, and write the net profit or (loss) here				23
24	Net farm rental profit or (loss) from Form 4835, line 49				24
25	Total rental or royalty income or (loss). Combine amounts on lines 23 and 24, and write the total here. If Parts II, III, and IV on page 2 do not apply to you, write the amount from line 25 on Form 1040, line 18. Otherwise, include the amount in line 39 on page 2 of Schedule E.				25

For Paperwork Reduction Act Notice, see Form 1040 Instructions.

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Schedule E (Form 1040) 1983



Governmental Operations Committee of the Los Angeles City Council. FTB randomly chose 100 properties from the registration file. The identities of the individual tax filers were not made known to the City, in keeping with established FTB practices. The test of 100 properties indicated that about one-half the owners had filed either a federal form Schedule E or a comparable Schedule E worksheet indicating income and expense data on rental properties, as required by both federal and state law (Exhibit 3.C.2).

Since properties owned by partnerships and corporations usually have consolidated tax returns, there appeared little possibility of obtaining income and expense data on individual properties owned corporately or in partnership. Theoretically this means the bulk of properties obtainable from the FTB probably over-represents smaller properties, as most larger rental properties are, presumably, owned by corporations and partnerships.

The Department recommended, and the Council and the Mayor approved, an expanded examination of RSO properties by the FTB. Such an analysis would provide extensive data on the operating costs of smaller properties, data not obtainable from IREM annual reports. One of the contentions of parties testifying at public hearings held by the RAC and the Council was that smaller landlords, not having the economies of scale available to large apartment complexes,



# EXHIBIT 3.C.2

## Results of FTB Test

LINE	ITEM	TOTAL	AVERAGE		Low 1/4	High 3/4	# OF PROP.
			(Mean)	(Median)			
(a)	Rents received	\$450,217	\$9,787	\$7,597	\$4,596	\$13,950	46
	Advertising	991	99	65	41	102	10
	Auto and travel	2,272	252	165	120	461	9
	Clean and maintain	9,981	768	458	240	1,580	13
	Commissions	745	745	*	*	*	1
	Insurance	15,642	364	278	164	516	43
	Interest	181,096	5,488	4,709	1,223	7,493	33
	Legal and Other Professional Fees	1,566	224	196	62	381	7
	Repairs	34,625	962	881	194	1,536	36
	Supplies	3,655	281	238	82	467	13
	Taxes	32,340	719	567	335	1,005	45
	Utilities	20,926	523	404	143	713	40
	Wages and salaries	**	**	**	**	**	0
	Other	42,383	1,145	720	17	2,101	37
	Total expenses	346,223	7,527	5,463	3,011	10,678	46
	Depreciation expense or depletion	124,709	2,711	1,745	859	3,694	46
	Total	\$470,932	\$10,238	\$8,133	\$4,106	\$13,495	46

\*Too few responses to determine.

\*\*No returns found with costs in this area.

7-11-77 1/24





had considerably higher expense-to-income ratios. Precisely because of the size bias inherent in the FTB test, with its a larger proportion of smaller landlords than is found in the total registered universe, CDD anticipated the FTB data would fill the gap in the City's knowledge about income and expenses of smaller landlords.

The Department felt that through these multiple sources (the landlord surveys, the FTB data, IREM, and the CPI) the City could obtain an accurate picture of changing income and expenses in the apartment and mobile home park industries in the City of Los Angeles as had been mandated by the Council action in 1983.

#### Sampling 10,000 Properties

Since FTB files are stored by the filer's social security number, the FTB believed the pulling of the tax files could be expedited if this task could be done by computer rather than by hand. This computerized pulling required the tax filer's social security number. Although the City does not have access to the social security numbers of property owners, the Los Angeles County Assessor's files do contain a social security number for the purpose of establishing the homeowner's exemption under California law. This portion of the Assessor's file containing the social security number is not available to the City, but the FTB has legal access through the State Board of Equalization,



### EXHIBIT 3.C.3

#### FTB Sampling Matrix by Registered Properties

ZIP CODE	BUILDING SIZE			TOTAL
	2-5	6-11	12+	
LMPA 1	3906	817	338	5639
LMPA 2	9331	2379	925	13846
LMPA 3	7186	3490	3159	14727
LMPA 4	3370	2415	2608	9312
LMPA 5	3980	2223	1181	7884
LMPA 6	2099	509	221	3016
TOTAL	29472	11833	8432	51424

Source: Rent Stabilization Registration File

### EXHIBIT 3.C.4

#### FTB Sampling Matrix by Distribution of Owners

ZIP CODE	BUILDING SIZE			TOTAL
	2-5	6-11	12+	
LMPA 1	910	327	159	1396
LMPA 2	3410	1311	633	5354
LMPA 3	3400	2380	2264	8044
LMPA 4	1845	1909	2133	5887
LMPA 5	2200	1930	900	5030
LMPA 6	857	298	122	1277
TOTAL	12622	8155	6211	26988

Source: Los Angeles County Assessors File



another state agency. Since the City has on computer tape both the RSO registration file and the Assessor's tax records for the City of Los Angeles, the two tapes were run and matched for addresses. From this address match CDD provided the FTB with the 26,966 properties where the landlord had filed a homeowner's exemption at the address where the property owner lived and where the property could be identified as being in one of the six geographic areas (LMPA) being used in the 1984 Rental Housing Study (Exhibits 3.C.3 and 3.C.4).

#### Potential Sampling Bias

The RSD registration tape had several known minor biases. Only property owners whose mailing addresses are in the City of Los Angeles were included. This exclusion affected approximately 30% of the property owners whose mailing addresses are outside the City of Los Angeles. The Department believes any potential bias is insignificant, for there is no particular reason to believe that the home address of an owner living outside the City would skew the expense data of properties located inside the City. The only exception appears to be those properties where the landlord lives on the premises. A comparison of the FTB sample with the proportionate distribution of the 70,000 properties in the registration universe does indicate a minor bias in LMPA 2 where properties were oversampled and LMPA 4 where they were undersampled. However, when the



city-wide data were reweighted to correct for the sampling errors, the difference between the weighted and unweighted samples proved to be .002 percent, an amount that made it unnecessary to reweight the FTB report on a city-wide basis.

#### Other Bias

In conducting the aggregating of the 10,000 properties included in the FTB sample, there are possible biases which cannot be adjusted since the nature and extent of the bias cannot be determined. These biases include:

a) the fact that only 50% of the owners of record in the Assessor's list filed a single or joint return;

b) the unknown percentage of such listed owners who may own the property as a corporation or in some form of partnership;

c) the bias that may exist between those who report rental income on their tax returns and those who do not.

#### FTB Averages

The FTB reported to the City aggregate income and expense information for the calendar year 1983. The data are reported by building size (2-5, 6-11, and 12+ units) and by the 6 LMPAs. For tax filers using Schedule E, the FTB report aggregates total income from line 3a, and each of the expense lines 4-17. Line 18 is the total expense including interest. Line 19 is the line for depreciation and line 20 the income less all expenses including depreciation. To





bring the tax-reported data into conmmformity with IREM reporting standards, the FTB data must be recalculated to remove interest as an operating expense. This provides the Net Operating Expense NOE (income less all operating expenses excluding interest). The FTB data has aggregate city-wide data and aggregates for each of the Schedule E lines. In addition, there are averages, medians, and high and low quartiles for each of the Schedule E lines (Exhibit 3.C.5).

#### Reconstituted Averages

An additional calculation has been made by the City. The aggregate amounts of each Schedule E line have been divided by the total number of properties reporting. This provides an overall average for each line, in contrast to the average of only those reporting income or expenses. For example, a few landlords in the sample had no income. Thus the average income for all reporting properties will be an amount somewhat less than the average income of those reporting income. The same is true of each of the Schedule E lines. In some instances only a few landlords reported expenses in one of these categories. The line-item average presents an unrealstic picture compared to the true average derived from all reporting properties. In making the comparison of FTB data to the 1984 Landlord Survey, HRS&A calculated NOE using averages adjusted in this manner. The



# EXHIBIT 3.C.5

## FTB Citywide Results from Schedule E Forms

ALL OF THE FIGURES REPRESENT LOS ANGELES REGISTERED PROPERTIES FOR 1984 LISTED ON FEDERAL FORM ATTACHMENT 'E' AS FILED WITH THE FRANCHISE TAX BOARD FOR THE CALENDAR YEAR 1983

----- FEDERAL FORM SCHEDULE E -----							
LINE NUMBER	AGGREGATE TOTAL	AVERAGE	MEDIAN	LOW QUARTILE	HIGH QUARTILE	NUMBER OF PROPERTIES	
3A	\$ 32,719,686	\$ 20,787	\$ 12,487	\$ 6,210	\$ 24,576	1,574	
04	\$ 93,905	\$ 223	\$ 80	\$ 32	\$ 193	421	
05	\$ 334,950	\$ 423	\$ 205	\$ 98	\$ 438	791	
06	\$ 662,287	\$ 709	\$ 401	\$ 178	\$ 770	933	
07	\$ 112,351	\$ 1,040	\$ 469	\$ 163	\$ 1,208	108	
08	\$ 1,017,234	\$ 690	\$ 479	\$ 272	\$ 792	1,474	
09	\$ 11,518,647	\$ 10,275	\$ 4,775	\$ 1,467	\$ 11,424	1,121	
10	\$ 323,200	\$ 570	\$ 150	\$ 62	\$ 465	567	
11	\$ 2,167,400	\$ 1,813	\$ 948	\$ 360	\$ 2,107	1,195	
12	\$ 426,864	\$ 562	\$ 249	\$ 96	\$ 641	759	
13	\$ 2,234,130	\$ 1,469	\$ 818	\$ 441	\$ 1,593	1,520	
14	\$ 2,448,723	\$ 1,663	\$ 696	\$ 279	\$ 1,989	1,472	
15	\$ 184,302	\$ 1,428	\$ 905	\$ 297	\$ 1,920	129	
16	\$ 3,827,449	\$ 2,609	\$ 1,302	\$ 455	\$ 3,179	1,467	
17	\$ 25,351,442	\$ 15,994	\$ 8,488	\$ 4,029	\$ 17,392	1,585	
18	\$ 6,556,370	\$ 4,540	\$ 2,471	\$ 1,094	\$ 4,872	1,444	
19	\$ 31,908,145	\$ 20,118	\$ 10,708	\$ 5,162	\$ 21,941	1,586	

# EXHIBIT 3.C.6

## FTB Citywide Results from Worksheets

ALL OF THE FIGURES REPRESENT LOS ANGELES REGISTERED PROPERTIES FOR 1984 LISTED ON THE SCHEDULE 'E' WORKSHEET AS FILED WITH THE FRANCHISE TAX BOARD FOR THE CALENDAR YEAR 1983

----- SCHEDULE E WORKSHEET -----							
LINE NUMBER	AGGREGATE TOTAL	AVERAGE	MEDIAN	LOW QUARTILE	HIGH QUARTILE	NUMBER OF PROPERTIES	
3A	\$ 60,159,550	\$ 27,723	\$ 15,828	\$ 7,966	\$ 30,240	2,170	
09	\$ 19,058,073	\$ 12,108	\$ 5,340	\$ 1,632	\$ 13,752	1,574	
16	\$ 24,378,374	\$ 11,239	\$ 6,276	\$ 3,267	\$ 11,966	2,169	
18	\$ 10,791,491	\$ 5,439	\$ 2,807	\$ 1,241	\$ 5,708	1,984	
19	\$ 54,227,938	\$ 24,886	\$ 12,859	\$ 6,136	\$ 26,844	2,179	

Source: State of California Franchise Tax Board



# FTB Citywide Results from Schedule E Filings - By Building Size

ALL OF THE FIGURES REPRESENT LOS ANGELES REGISTERED PROPERTIES FOR 1984  
LISTED ON FEDERAL FORM ATTACHMENT 'E' AS FILED WITH THE FRANCHISE TAX  
BOARD FOR THE CALENDAR YEAR 1983

----- FEDERAL FORM SCHEDULE E -----							
LINE NUMBER	AGGREGATE TOTAL	AVERAGE	MEDIAN	LOW QUARTILE	HIGH QUARTILE	NUMBER OF PROPERTIES	
3A	\$ 9,145,875	\$ 9,876	\$ 7,547	\$ 4,069	\$ 12,004	926	
04	\$ 17,716	\$ 120	\$ 59	\$ 26	\$ 127	147	
05	\$ 105,988	\$ 246	\$ 145	\$ 66	\$ 309	430	
06	\$ 189,393	\$ 418	\$ 281	\$ 135	\$ 520	453	
07	\$ 24,637	\$ 665	\$ 300	\$ 120	\$ 500	37	
08	\$ 362,354	\$ 418	\$ 316	\$ 207	\$ 485	865	
09	\$ 3,678,052	\$ 5,980	\$ 2,682	\$ 998	\$ 6,827	615	
10	\$ 126,318	\$ 451	\$ 83	\$ 44	\$ 214	280	
11	\$ 863,816	\$ 1,259	\$ 739	\$ 282	\$ 1,490	686	
12	\$ 123,933	\$ 341	\$ 163	\$ 64	\$ 416	363	
13	\$ 735,137	\$ 832	\$ 513	\$ 326	\$ 830	883	
14	\$ 478,837	\$ 567	\$ 322	\$ 191	\$ 624	844	
15	\$ 14,009	\$ 412	\$ 300	\$ 180	\$ 495	34	
16	\$ 1,220,769	\$ 1,456	\$ 809	\$ 294	\$ 1,764	838	
17	\$ 7,940,959	\$ 8,511	\$ 5,013	\$ 2,855	\$ 9,422	933	
18	\$ 2,064,259	\$ 2,496	\$ 1,485	\$ 760	\$ 2,917	827	
19	\$ 10,005,451	\$ 10,712	\$ 6,448	\$ 3,697	\$ 12,087	934	

## BUILDING SIZE = 6 - 11 UNITS

3A	\$ 11,709,556	\$ 25,236	\$ 22,412	\$ 15,085	\$ 31,583	464	
04	\$ 33,951	\$ 183	\$ 81	\$ 35	\$ 186	185	
05	\$ 138,572	\$ 518	\$ 289	\$ 146	\$ 558	267	
06	\$ 248,648	\$ 722	\$ 500	\$ 250	\$ 849	344	
07	\$ 47,809	\$ 1,062	\$ 581	\$ 180	\$ 1,440	45	
08	\$ 355,130	\$ 812	\$ 658	\$ 510	\$ 896	437	
09	\$ 3,284,657	\$ 9,465	\$ 6,600	\$ 2,322	\$ 13,610	347	
10	\$ 82,097	\$ 461	\$ 207	\$ 95	\$ 487	178	
11	\$ 661,739	\$ 1,803	\$ 1,200	\$ 490	\$ 2,356	367	
12	\$ 148,464	\$ 553	\$ 323	\$ 105	\$ 654	268	
13	\$ 732,380	\$ 1,613	\$ 1,307	\$ 861	\$ 1,982	454	
14	\$ 862,411	\$ 1,920	\$ 1,568	\$ 917	\$ 2,600	449	
15	\$ 60,308	\$ 1,137	\$ 723	\$ 295	\$ 1,500	53	
16	\$ 1,372,495	\$ 3,056	\$ 1,968	\$ 964	\$ 3,868	449	
17	\$ 8,028,661	\$ 17,191	\$ 14,033	\$ 8,275	\$ 22,249	467	
18	\$ 2,097,927	\$ 4,800	\$ 3,516	\$ 2,143	\$ 5,656	437	
19	\$ 10,126,609	\$ 21,684	\$ 17,480	\$ 10,417	\$ 28,017	467	

## BUILDING SIZE = 12+ UNITS

3A	\$ 11,864,255	\$ 64,479	\$ 50,171	\$ 34,709	\$ 77,896	184	
04	\$ 42,238	\$ 474	\$ 173	\$ 75	\$ 435	89	
05	\$ 90,390	\$ 961	\$ 445	\$ 220	\$ 1,025	94	
06	\$ 224,246	\$ 1,648	\$ 847	\$ 366	\$ 1,847	136	
07	\$ 39,905	\$ 1,534	\$ 648	\$ 308	\$ 2,954	26	
08	\$ 299,750	\$ 1,742	\$ 1,454	\$ 958	\$ 2,221	172	
09	\$ 4,555,938	\$ 28,653	\$ 18,868	\$ 7,518	\$ 37,162	159	
10	\$ 114,785	\$ 1,053	\$ 400	\$ 150	\$ 1,049	109	
11	\$ 641,845	\$ 4,520	\$ 2,262	\$ 1,183	\$ 5,604	142	
12	\$ 154,467	\$ 1,206	\$ 805	\$ 230	\$ 1,519	128	
13	\$ 766,613	\$ 4,189	\$ 2,831	\$ 1,736	\$ 5,259	183	
14	\$ 1,107,475	\$ 6,187	\$ 5,406	\$ 3,126	\$ 8,200	179	
15	\$ 109,985	\$ 2,618	\$ 2,181	\$ 1,500	\$ 3,600	42	
16	\$ 1,234,185	\$ 6,856	\$ 4,999	\$ 2,445	\$ 9,134	180	
17	\$ 9,381,822	\$ 50,712	\$ 37,704	\$ 22,543	\$ 64,633	185	
18	\$ 2,394,184	\$ 13,301	\$ 8,070	\$ 4,356	\$ 15,190	180	
19	\$ 11,776,085	\$ 63,654	\$ 45,684	\$ 26,000	\$ 76,483	185	

Source: State of California Franchise Tax Board



## EXHIBIT 3.C.8

# FTB Citywide Results from Worksheets - By Building Size

ALL OF THE FIGURES REPRESENT LOS ANGELES REGISTERED PROPERTIES FOR 1984  
LISTED ON THE SCHEDULE 'E' WORKSHEET AS FILED WITH THE FRANCHISE TAX  
BOARD FOR THE CALENDAR YEAR 1983

----- SCHEDULE E WORKSHEET -----

LINE NUMBER	AGGREGATE TOTAL	AVERAGE	MEDIAN	LOW QUARTILE	HIGH QUARTILE	NUMBER OF PROPERTIES
3A	\$ 12,807,624	\$ 11,117	\$ 8,842	\$ 5,400	\$ 13,840	1,152
09	\$ 4,300,261	\$ 5,628	\$ 3,556	\$ 1,089	\$ 8,374	764
16	\$ 5,691,658	\$ 4,944	\$ 3,782	\$ 2,233	\$ 5,791	1,151
18	\$ 2,620,804	\$ 2,542	\$ 1,668	\$ 810	\$ 3,158	1,031
19	\$ 12,612,723	\$ 10,901	\$ 7,368	\$ 4,108	\$ 13,597	1,157

BUILDING SIZE = 6 - 11 UNITS

ALL OF THE FIGURES REPRESENT LOS ANGELES REGISTERED PROPERTIES FOR 1984  
LISTED ON THE SCHEDULE 'E' WORKSHEET AS FILED WITH THE FRANCHISE TAX  
BOARD FOR THE CALENDAR YEAR 1983

----- SCHEDULE E WORKSHEET -----

LINE NUMBER	AGGREGATE TOTAL	AVERAGE	MEDIAN	LOW QUARTILE	HIGH QUARTILE	NUMBER OF PROPERTIES
3A	\$ 17,750,106	\$ 27,349	\$ 24,368	\$ 17,457	\$ 33,274	649
09	\$ 4,468,763	\$ 9,119	\$ 5,701	\$ 1,806	\$ 13,582	490
16	\$ 6,997,708	\$ 10,798	\$ 9,124	\$ 6,359	\$ 13,101	648
18	\$ 2,738,580	\$ 4,564	\$ 3,439	\$ 2,026	\$ 5,834	600
19	\$ 14,205,051	\$ 21,820	\$ 17,633	\$ 10,368	\$ 29,196	651

BUILDING SIZE = 12+ UNITS

ALL OF THE FIGURES REPRESENT LOS ANGELES REGISTERED PROPERTIES FOR 1984  
LISTED ON THE SCHEDULE 'E' WORKSHEET AS FILED WITH THE FRANCHISE TAX  
BOARD FOR THE CALENDAR YEAR 1983

----- SCHEDULE E WORKSHEET -----

LINE NUMBER	AGGREGATE TOTAL	AVERAGE	MEDIAN	LOW QUARTILE	HIGH QUARTILE	NUMBER OF PROPERTIES
3A	\$ 29,601,820	\$ 80,221	\$ 60,624	\$ 37,310	\$ 103,465	369
09	\$ 10,289,049	\$ 32,153	\$ 20,191	\$ 6,665	\$ 41,043	320
16	\$ 11,689,008	\$ 31,591	\$ 23,150	\$ 14,122	\$ 38,561	370
18	\$ 5,432,107	\$ 15,388	\$ 9,351	\$ 4,372	\$ 17,665	353
19	\$ 27,410,164	\$ 73,881	\$ 49,225	\$ 26,592	\$ 90,544	371

Source: State of California Franchise Tax Board





results are contained in Exhibit 3.19 of Impacts and Alternatives volume.

The same system was applied to the tax returns where a worksheet was used rather than the federal form Schedule E (Exhibit 3.C.6). However, in the case of worksheets there are no standard lines for individual entries. Therefore the City asked the FTB to report only total income, interest paid, all other expenses (NOE), NOE less interest, depreciation, and income less all expenses including depreciation. The FTB report lists city-wide aggregates; averages; median, high and low quartiles and these same categories by LMPA. The City has also combined the total from the Schedule E reports and the worksheet reports to give an overall view of landlords reporting irrespective of the form on which the data are located.

Since tax filers are not required to list the number of units in their property, the building-size comparisons were made by cross tabulating the tax file with the City's registration file.

#### D. NEW CONSTRUCTION

##### Building Activity

The new construction analysis focuses on unsubsidized multi-family rental production. Data was obtained from local Building Departments in order to determine the total



number of multi-family permits issued in each city during the period of 1974 - 1984. Within the multi-family classification data is broken down into subclassifications of duplexes, apartments, and condominiums. The permit files however, do not indicate what portion of the rental units are subsidized, either through mortgage revenue bonds or HUD programs, such as Section 8. Condominiums also require some special consideration the major issues in this analysis in reference to condominiums are discussed below.

Data was obtained from a variety of sources in order to determine what portion of multi-family permits were subsidized apartments, unsubsidized apartments, and condominiums. The data reported reflects the year the permit was issued (Exhibit 3.D.1<sup>1</sup> and 3.D.2).

#### Subsidized Construction

The Inventory of Subsidized Housing, by the Southern California Association of Governments (SCAG) was used as a resource document for identifying assisted housing developments in each city. This Inventory lists all rental developments assisted under past and current HUD rental housing programs that were built through October 1982. The Los Angeles Area Office of the Department of Housing and Urban Development provided supplementary data used to update this Inventory through 1984. By cross matching the addresses from the Inventory to the permit file, subsidized



New Multi-Family Building Permit Activity,  
1974-1984, By City

## LOS ANGELES

	TOTALS	SUBSIDIZED	UNSUBSIDIZED	CONDOS
1974	6855	394	3969	2492
1975	5081	244	3752	1085
1976	10398	898	8035	1465
1977	11806	795	7568	3443
1978	12307	1495	6476	4336
1979	9950	707	4140	5103
1980	8877	476	2491	5910
1981	6878	1055	1843	3980
1982	4493	1621	1607	1265
1983	8201	2559	4353	1289
1984	12103	1465	9498	1140
TOTAL	96949	11709	53732	31508

Source: L.A. Building Department, LUPAMS, SCAG inventory  
CDD and CRA bond and gap financing lists

## GLENDALE

	TOTALS	SUBSIDIZED	UNSUBSIDIZED	CONDOS
1974	626	0	433	193
1975	113	0	113	0
1976	274	0	227	47
1977	143	0	93	50
1978	591	167	398	26
1979	629	0	345	284
1980	656	25	11	620
1981	524	12	152	360
1982	312	0	60	252
1983	354	0	279	75
1984	1186	97	827	262
TOTAL	5408	301	2938	2169

SOURCE: GLENDALE BUILDING DEPARTMENT, SCAG INVENTORY, HUD &  
SECURITY PACIFIC BANK

## BURBANK

	TOTALS	SUBSIDIZED	UNSUBSIDIZED	CONDOS
1974	311	169	26	116
1975	15	0	0	15
1976	71	0	57	14
1977	168	0	112	56
1978	202	0	75	127
1979	554	150	49	355
1980	359	0	2	357
1981	113	0	14	99
1982	41	0	11	30
1983	83	0	63	20
1984	424	34	390	0



TOTAL	2341	353	799	1189
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SOURCE: BURBANK BUILDING DEPARTMENT, SCAG INVENTORY, HUD &  
SECURITY PACIFIC BANK  
INGLEWOOD

	TOTALS	SUBSIDIZED	UNSUBSIDIZED	CONDOS
1974	0	0	0	0
1975	0	0	0	0
1976	93	93	0	0
1977	15	0	15	0
1978	12	0	12	0
1979	148	106	21	21
1980	162	0	10	152
1981	70	0	3	67
1982	37	0	5	32
1983	218	0	71	147
1984	24	0	17	7
TOTAL	779	199	154	426

SOURCE: INGLEWOOD BUILDING DEPARTMENT, SCAG INVENTORY, HUD &  
SECURITY PACIFIC BANK  
TORRANCE

	TOTALS	SUBSIDIZED	UNSUBSIDIZED	CONDOS
1974	119	0	35	84
1975	54	0	26	28
1976	160	0	69	91
1977	130	0	37	93
1978	101	0	21	80
1979	187	0	4	183
1980	186	0	6	180
1981	108	0	10	98
1982	115	101	7	7
1983	252	0	30	222
1984	97	0	17	80
TOTAL	1509	101	262	1146

SOURCE: TORRANCE BUILDING DEPARTMENT, SCAG INVENTORY, HUD &  
SECURITY PACIFIC BANK  
LONG BEACH

	TOTALS	SUBSIDIZED	UNSUBSIDIZED	CONDOS
1974	258	0	258	0
1975	666	78	474	114
1976	247	0	247	0
1977	554	50	504	0
1978	541	0	502	39
1979	856	0	601	255
1980	244	12	137	95





EXHIBIT 3.D.1  
(continued)

1981	200	0	116	84
1982	250	0	174	76
1983	1558	943	149	466
1984	1000	0	451	549
TOTAL	6374	1083	3613	1678

SOURCE: LONG BEACH BUILDING DEPARTMENT, SCAG INVENTORY, HUD  
& SECURITY PACIFIC BANK  
PASADENA

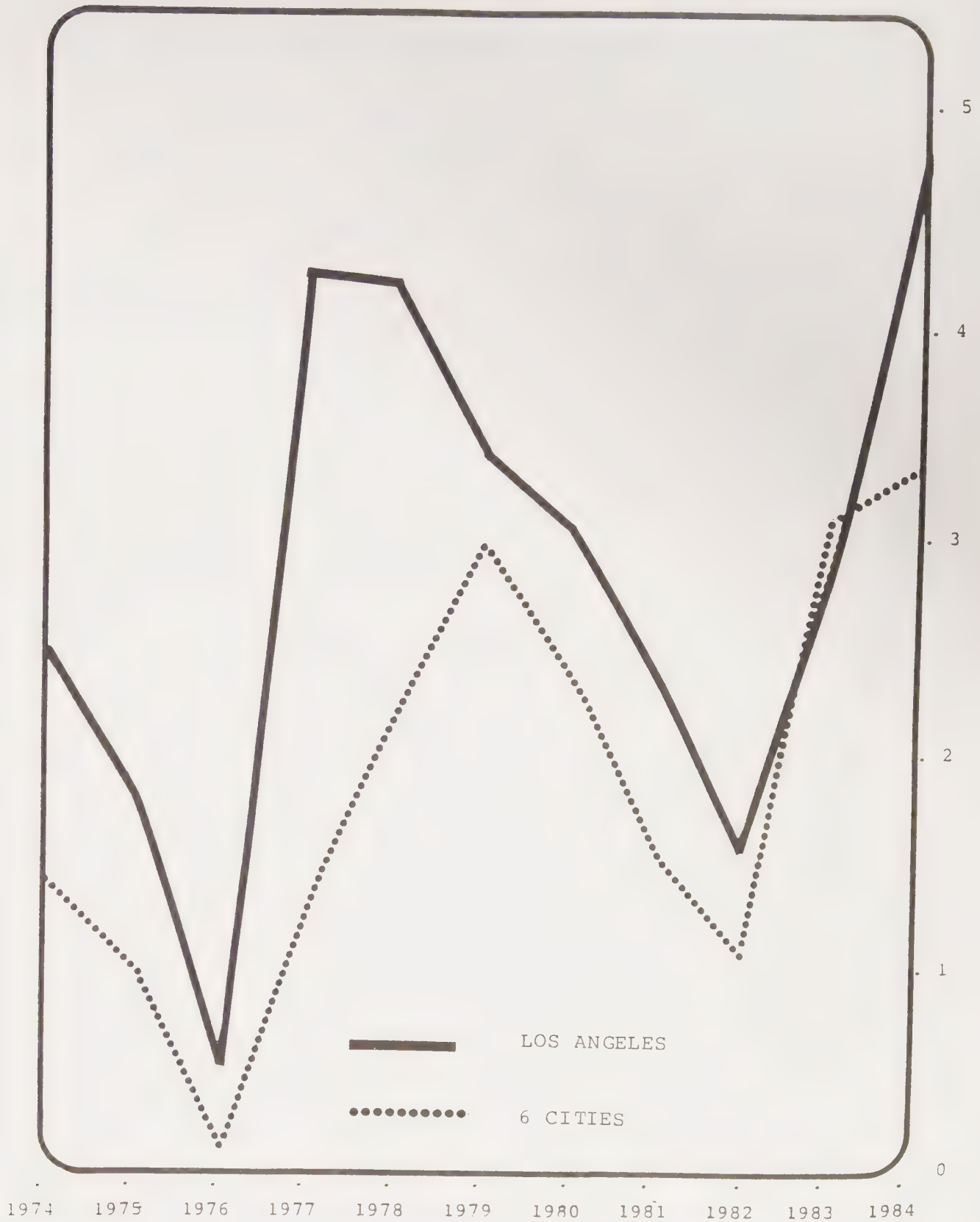
	TOTALS	SUBSIDIZED	UNSUBSIDIZED	CONDOS
1974	220	0	167	53
1975	14	0	8	6
1976	460	0	234	226
1977	95	0	50	45
1978	524	157	315	52
1979	360	0	194	166
1980	534	0	51	483
1981	377	0	31	346
1982	212	0	49	163
1983	354	0	86	268
1984	345	0	64	281
TOTAL	3495	157	1249	2089

SOURCE: PASADENA BUILDING DEPARTMENT, SCAG INVENTORY, HUD &



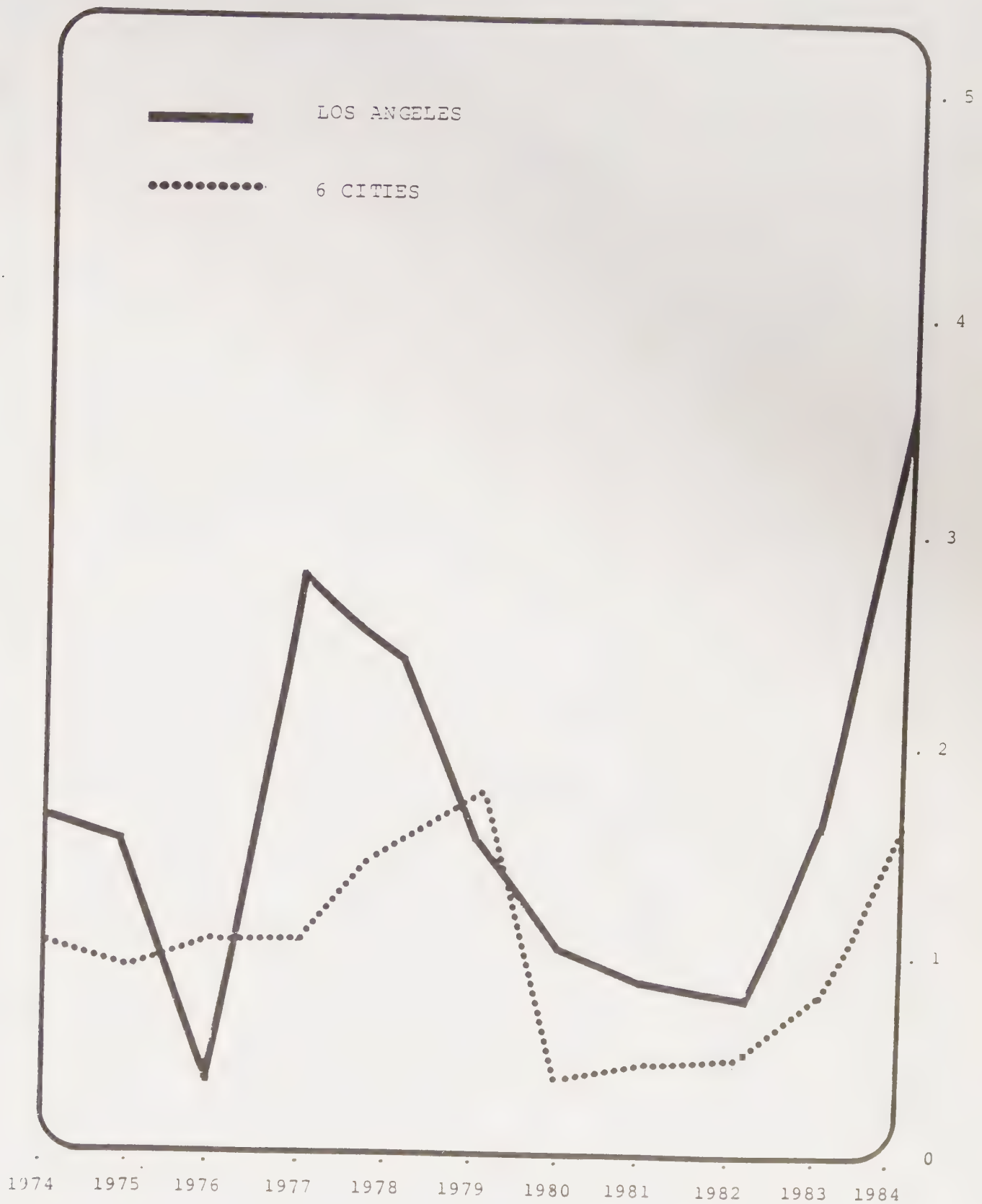
EXHIBIT 3.D.1a

Graph of Total Permits Per 1000 Population  
Los Angeles and Six Cities, 1974-1984



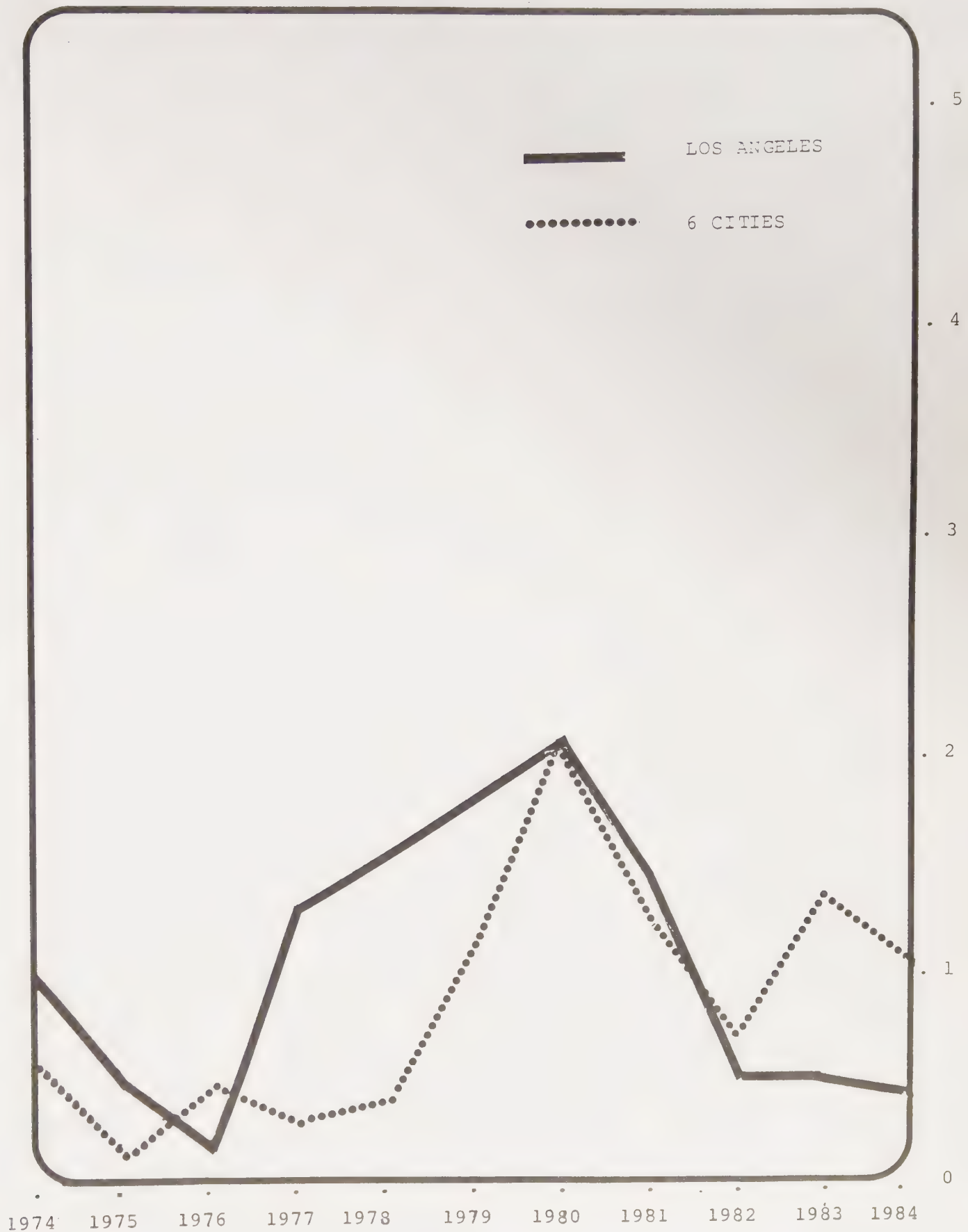


Graph of Unsubsidized Permits Per 1000 Population  
Los Angeles and Six Cities, 1974-1984





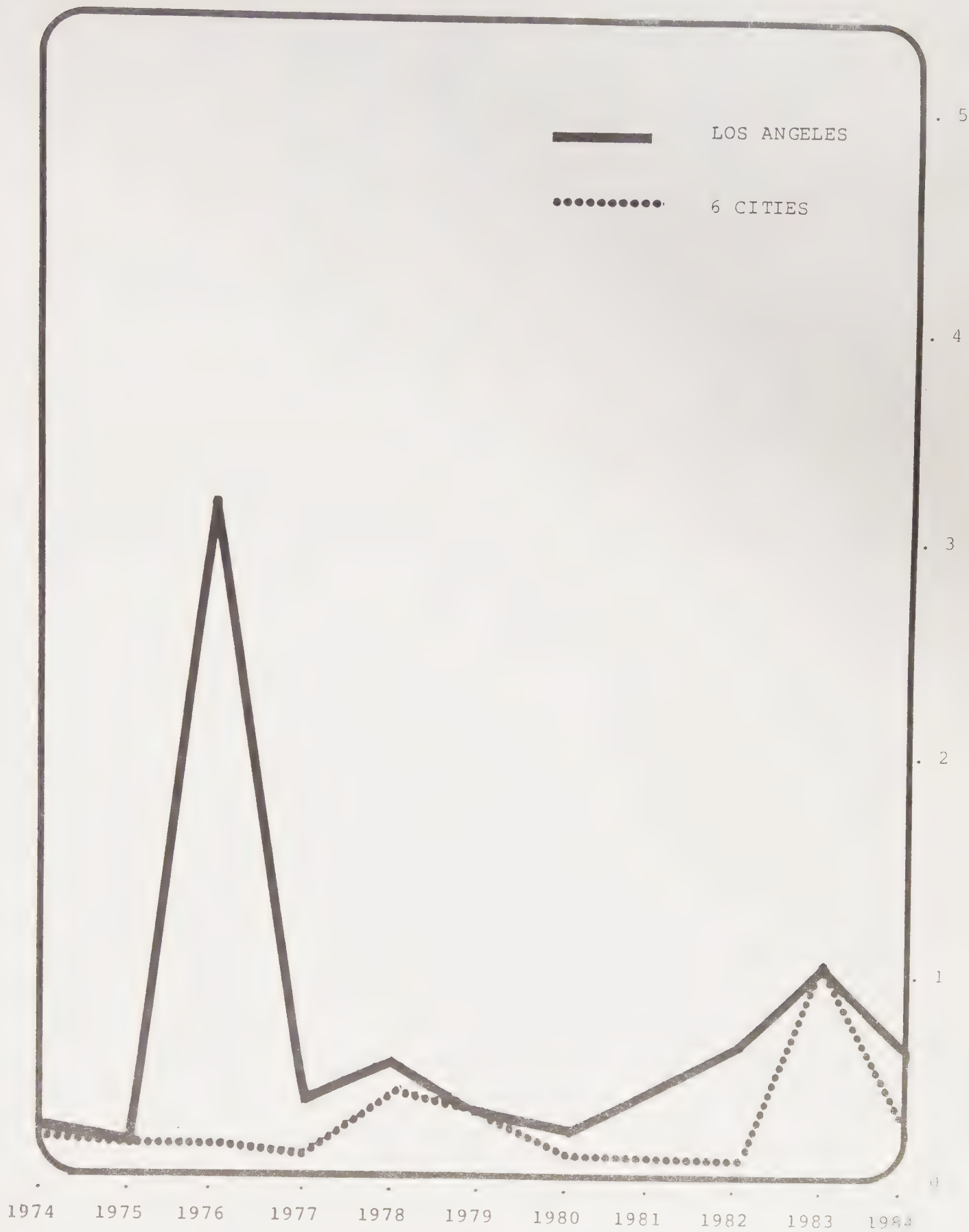
Graph of Condominium Permits Per 1000 Population  
Los Angeles and Six Cities, 1974-1984







Graph of Subsidized Permits Per 1000 Population  
Los Angeles and Six Cities, 1974-1984





# EXHIBIT 3.D.2

## Los Angeles City Permit Activity: Demolitions, Alterations, Conversions, Additions - Net Inventory, 1974-1983\*

	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>TOTAL</u>
TOTAL MULTI-FAMILY CONSTRUCTION PERMITS	6855	5081	10398	11806	12307	9950	8877	6878	4493	8201	84846
Demolitions	1082	421	787	412	288	898	982	837	613	485	6806
Alterations (remove)	23	19	218	21	22	20	33	49	30	36	471
Converted Condos	0	0	0	0	0	0	193	482	433	639	1747
Alterations (addtn.)	87	32	45	15	206	104	138	156	122	51	956
Additions	73	45	81	386	302	94	218	164	162	176	1701
TOTAL CHANGE	-945	-363	-879	-33	198	-720	-852	-1048	-792	-933	-6367
NET TOTAL INVENTORY	5910	4718	9519	11773	12505	9230	8025	5830	3701	7268	78479

\* Los Angeles City permit data for demolitions, alterations, and additions for 1984 were not available at the time of the Study.

Source: Los Angeles City Building Dept. permit files.



housing units were extracted from the yearly totals, citywide and by LMPA.

In this analysis apartments financed with mortgage revenue bonds and other government assisted programs, such as Los Angeles' "GAP" finance program are included in the subsidized category. For each city a list of all such projects was obtained from the responsible agency (e.g., Redevelopment Agencies, Community Development Agencies), the addresses were crossmatched with the permit files and the projects were extracted from the multi-family unit totals and counted in the "subsidized" category.

#### Condominiums

In some cities, building permit records indicated which projects were condominiums and these developments could easily be tracked and counted. In others, the task was more complex and in some cases the status of projects was uncertain due to the variety of sources and record keeping methods encountered.

The City of Los Angeles' permit file recorded condominiums separately beginning in 1980. Condominiums prior to 1980 were extracted by cross matching the City's portion of the property tax role (LUPAMS) with the permit file. The Assessor's Office code for condominiums recorded on LUPAMS made it possible to identify condominium projects



prior to 1980. The address was cross matched with the permit file to extract the number of units from the totals.<sup>2</sup>

In other cities, data reported on condominiums was obtained from a combination of permit files and the Security Pacific Bank's monthly reports California Construction Trends, which indicated whether the project was a condominium.

#### Estimation of Condominiums in Los Angeles that are Rental Units in 1984

The Bureau of Census reported in 1980 that 27.41% of condominiums in Los Angeles were rentals. To estimate the percentage of condominiums that are rented in 1984, a target sample survey of condominiums that were owner occupied was conducted. Thirty-two condominium developments representing 1,947 units were selected in proportion to the total number of condominiums in each of the six LMPAs (Exhibit 3.D.3).

Two methods were used to estimate the current status of condominiums as rentals: (1) For each development in the sample the property address, owner's name, and mailing address was extracted from LUPAMS.<sup>3</sup> A comparison between the two addresses indicated whether the mailing address and the property address were the same. (2) A site visit was made to each accessible development<sup>4</sup> to compare the owner's





name with the name listed on the call board or mailbox (Exhibit 3.D.3). Where a name other than the owner's appeared on the callboard/mailbox it was recorded by the surveyor. Where no name appeared it was noted as well.

Estimating vacancy rates in condominium rentals is problematic for a number of reasons. Condominiums are often "interim rentals" coming in and out of the rental market.<sup>5</sup>

Even if the number of vacancies could be determined within a project, these vacancies are not necessarily indicative of a rental vacancy.

Exhibit 3.D.4 indicates the number of units in our sample where the owner's name appeared on the mailbox/callboard, the number of units where another name appeared, and the number of units where no name appeared. To estimate a vacancy rate in condominiums (which includes units for sale and rent) the following assumptions must be made:

1. Where the owner's name appears on the mailbox/callboard, the unit is owner-occupied.
2. Where a name other than the owner's appears, the unit is rented.
3. Where no name appears, the unit is vacant.



## EXHIBIT 3.D.3

Owner Occupied Condominiums:  
Address Comparison and Site Visits

<u>Address &amp; LMPA</u>		<u># of Units (3/84)</u>	<u># Owner has same Mail- ing Address (3/84)</u>	<u># Owner lives at Property (9/84)</u>	<u>% Owner has same Mail- ing Address (3/84)</u>	<u>% Owner lives at Property (9/84)</u>
1.	6201 Shoup	4	25	20	84%	80%
2.	6225 Shoup	4	30	18	77%	60%
3.	6121 Shoup	4	40	27	80%	68%
4.	6145 Shoup	4	22	14	73%	64%
5.	19610 Sherman Way	4	20	10	60%	50%
6.	18631 Collins Street	4	34	21	71%	62%
7.	5401 Zelzah	4	31	-	87%	-
8.	4707 Willis	4	30	17	67%	57%
9.	10480 Sunland	4	58	-	67%	-
10.	17241 Roscoe	4	37	26	76%	70%
11.	8801 Independence	4	32	12	50%	38%
12.	4460 Wilshire	3	44	-	36%	-
13.	7135 Hollywood	3	122	61	55%	51%
14.	4041/9 Via Marisol	1	78	55	88%	71%
15.	4444 Wilshire	3	18	9	50%	50%
16.	2012 - 2249 Mt. Shasta	6	133	-	83%	-
17.	5301 Balboa	4	146	88	66%	60%
18.	5139 Balboa	4	40	-	80%	-
19.	4311 Colfax	4	29	10	69%	41%
20.	8180 Manitoba	5	180	-	66%	-
21.	1880 Veteran	5	43	23	63%	53%
22.	2220 Avenue of the Stars	5	161	-	67%	-
23.	2702 Peck	6	12	8	100%	75%
24.	300 - 322 Miraleste	6	200	-	74%	-
25.	4353 Colfax	4	44	44	100%	100%
26.	17221 Roscoe	4	29	22	79%	76%
27.	10327 Missouri	5	15	7	53%	46%
28.	1854 Beverly Glen	5	14	10	71%	71%



EXHIBIT 3.D.#  
(continued)

29.	1531 Camden	5	24	24	23	100%	96%
30.	5112 - 5198 Village Green	2	128	110	-	86%	-
31.	1900 N. Vine	3	54	34	-	63%	-
32.	4225 Via Arbolada	1	74	55	-	74%	-



With these assumptions, Exhibits 3.D.4 and 3.D.5 suggest that citywide 36% of the condominiums are rentals, a 9% increase between 1980 - 1984 and a combined vacancy rate (ownership and rentals) of 3% (Exhibits 3.D.4 and 3.D.5). This vacancy rate figure is comparable to citywide vacancy rate estimates in the multi-family rental sector reported in Chapter 2.

### Building Requirements

Information about local zoning and building requirements was obtained for Los Angeles and each of the six comparison cities to analyze the development environment. Zoning ordinances and general plans were reviewed and supplemented by key informant interviews with planning and building department officials. This information was used to develop a scale of restrictiveness in the development process. The scaling was based on the criteria noted below for a hypothetical triplex with an assessed value of \$200,000 and assuming no alterations or zoning variances.





# EXHIBIT 3.D.4

## Combined Results of Condominium Address Comparison and Site Visits

	<u>Total units</u>	<u>Match units</u>	<u>% owner lives at property</u>
<u>LMPA 1</u>			
Mailing Address Method	152	124	82%
Site Visit Method	78	55	71%
<u>LMPA 2</u>			
Mailing Address	128	110	86%
Site Visit	N/A	N/A	N/A
<u>LMPA 3</u>			
Mailing Address	238	126	53%
Site Visit	140	70	50%
<u>LMPA 4</u>			
Mailing Address	647	474	73%
Site Visit	518	331	64%
<u>LMPA 5</u>			
Mailing Address	437	295	68%
Site Visit	96	64	67%
<u>LMPA 6</u>			
Mailing Address	345	270	78%
Site Visit	12	9	75%
<u>CITYWIDE</u>			
Mailing	1,947	1,399	72%
Site	844	518	61%



## EXHIBIT 3.D.5

Survey of Occupied Condominiums: Matching  
Names from Site Visits

	Total Units	Owner Occupied	Other Name	No Name
1. 4041/9 Via Marisol	78	55	14	9
2. 7135 Hollywood	122	59	61	2
3. 4444 Wilshire	18	9	6	2
4. 4311 Colfax	29	10	16	3
5. 4353 Colfax	44	44	0	0
6. 5301 Balboa	146	89	57	0
7. 6201 Shoup	25	20	5	0
8. 6225 Shoup	30	18	12	0
9. 6121 Shoup	40	27	13	0
10. 6145 Shoup	22	14	8	1
11. 19610 Sherman Way	20	8	10	2
12. 18631 Collins Street	34	21	10	3
13. 18619 Collins Street	36	10	25	1
14. 4707 Willis Avenue	30	17	13	0
15. 17221 Roscoe Boulevard	29	22	7	0
16. 17241 Roscoe Boulevard	37	26	14	0
17. 8801 Independence	32	12	15	5
18. 10327 Missouri Avenue	15	7	8	0
19. 1854 Beverly Glen	14	10	4	0
20. 1531 Camden	24	23	1	0
21. 1870-80 Veteran Avenue	43	23	19	0
22. 2702 Peck Avenue	12	8	2	2
	<hr/>	<hr/>	<hr/>	<hr/>
TOTAL	882	532	320	30
%	100%	60%	36%	3%



The criteria were weighted on a 1 to 5 scale with one being the most lenient and five the most restrictive. The scaling from lenient to restrictive was relative based on the cities surveyed rather than any a priori considerations. The more critical the criterion, the higher the weighting.

Weights were assigned as follows:

- Number of permits and department approvals required (2)
- Time required to process permits (2)
- Building fees<sup>6</sup> (3)
- Setback Requirements (front, rear, and side) (3)
- Parking requirements (4)
- Percentage of single-family to multi-family residential zones<sup>7</sup> (5)
- Other<sup>8</sup> (1)

Based on the weighting system used, scores between 19 and 85 were possible (Exhibit 3.D.6).<sup>9</sup>



# EXHIBIT 3.D.6

## Development Standards, Los Angeles and Six Cities

CITY	PERMITS REQUIRED	MINIMUM TIME REQUIRED TO PROCESS PERMITS	FEES REQUIRED, \$200,000 TO TRIPLEX PROJECT	SETBACKS, AVERAGE			PARKING REQUIREMENTS	PERCENT OF LAND ZONED R-1
				Front	Back	Rear		
Los Angeles	<sup>5</sup> Engineering, Building & Safety, Planning, Public Works, Fire	5 - 6 Weeks	\$1,461	23.3'	6.5'	18.8'	1 - 2 covered/ d.u.	68%
Burbank	<sup>3</sup> Building, Public Works, Fire	4 Weeks	\$1,126	20'	5'	5'	1 - 2 at least carport/d.u.	80%
Glendale	<sup>4</sup> Building, Zoning, Engineering, Fire	3 Weeks	\$1,141	22.5'	4.75'	10'	1½ - 2 covered/ d.u.	82%
Pasadena	<sup>2</sup> Building, Zoning*	6 Weeks	\$3,651	23.3'	8.75'	15'	2 covered/d.u.	66%
Inglewood	<sup>2</sup> Building, Planning	6 Weeks	\$1,715	20.7'	4.3'	6.6'	2 covered/d.u.	41%
Long Beach	<sup>5</sup> Building, Sanitation, Street, Water, Gas	6 - 7 Weeks	\$1,126	13.3'	3'	10'	1 - 2 covered at times/d.u.	70%
Torrance	<sup>6</sup> Building, Engineering, Zoning, Planning, Grading, Department of Transportation	6 - 10 Weeks	\$1,158	20'	4'	7.5'	1½ covered, ½ uncovered/d.u.	80%

\*Both departments must  
approve twice





## Vacant Land Estimates

The amount of vacant land zoned for multi-family residential use (as a percentage of all multi-family zoned land) was obtained for each city.<sup>10</sup> The availability of "buildable" land was considered a major element in the development potential of a city. This information is typically found in the housing or land use elements of a city's general plan. In some cases this information could be easily derived from the cities which had recently updated these elements. In other cases, current estimates were derived from key informant interviews with city staff (Exhibit 3.D.7).

Exhibit 3.D.7 indicates the percentage of vacant land zoned for multi-family residential use. The estimates for Burbank, Glendale, Inglewood, and Long Beach were obtained by interviews with city staffs of those cities. The figure for Pasadena is from Pasadena's 1985 Housing Element (unreleased draft). The figure for Torrance is from its 1984 Housing Element.

At the time of this Study, the City of Los Angeles was in the process of updating its housing and land use elements; therefore, current estimates of vacant land were not available and had to be extrapolated from Tax Assessor's records. Approximately 7% of the R-2 to R-5 parcels had no land data recorded. We assumed that this "missing data" was



# EXHIBIT 3.D.7

## Percentage of Vacant Land Zoned Multi-Family Residential, Los Angeles and Six Cities\*

Los Angeles	4
Burbank	1
Glendale	0
Pasadena	0.4
Inglewood	0
Long Beach	0
Torrance	0.4

Source: City Planning Departments and Housing elements

\*Percentage derived by total vacant acres over total acres  
zoned multi-family residential



similar for both developed and undeveloped land. The amount of vacant land was derived from the vacant parcels recorded on LUPAMS plus 7%. This extrapolation added 102.63 acres, or roughly 7.7% to the vacant land estimate.<sup>11</sup>

#### E. VACANCY RATES

Vacancy rates in this study were derived from available data published by the United States Census, the Los Angeles Department of Water & Power (DWP), the Southern California Gas Company (SCG), The Federal Home Loan Bank Board (FHLBB), and the Institute of Real Estate Management (IREM).

##### U.S. Census/American Housing Survey (AHS)

All 1970 and 1980 census data and AHS vacancy data are taken from publications and/or from computer tapes prepared by the Census Bureau. In the decennial U. S. Census and the AHS, the definition of a "rental vacancy" is a "vacant year-round unit offered for rent"<sup>12</sup>.

##### Department of Water and Power (DWP)

DWP vacancy data were taken from DWP reports RP90.7 (Exhibit 3.E.1), a monthly report of individually metered apartments, and RP91.A, a quarterly report showing residential meter activity for single dwellings, multiple dwellings, and master metered properties. DWP calls these reports Vacancy Surveys, but they actually indicate idle



## EXHIBIT 3.E.1

## Typical DWP Reporting Form

DATE	3/07/85	CITY OF LOS ANGELES - INDIVIDUALLY METERED APARTMENT VACANCY SURVEY DEPARTMENT OF WATER & POWER - POWER SERVICES DIVISION			RP90.7	PAGE 1
GEOGRAPHIC / PLANNING AREA	NBR UNITS	NBR IDLE	NBR OWNER-OCC	TOTAL VACANT	PCT VACANT	
SAN FERNANDO VALLEY AREA						
CANOGA-WINNETKA-WOODLAND HLS	16,114	207	599	806	5.0	
CHATSWORTH - PORTER RANCH	8,438	174	180	354	4.2	
ENCINO - TARZANA	11,959	129	312	441	3.7	
GRANADA HLS - KNOLLWOOD	3,519	59	65	124	3.5	
MISSION HLS-PANORAMA-SEPULVEDA	15,052	295	276	571	3.8	
NORTH HOLLYWOOD	27,207	436	383	819	3.0	
NORTHRIDGE	5,230	91	125	216	4.1	
PACIOHA - SUN VALLEY	8,046	138	173	311	3.9	
RESEDA - WEST VAN NUYS	11,555	178	254	432	3.7	
SHERMAN OAKS - STUDIO CITY	20,571	322	276	598	2.9	
SUNLAND-TUJUNGA-SHADOW-LKVIEW	2,841	77	16	93	3.3	
SYLMAR	2,788	165	6	171	6.1	
VAN NUYS	27,236	483	530	1,013	3.7	
VERDUGO MTHS	1,962	42	3	45	2.3	
TOTAL SAN FERNANDO VALLEY	162,518	2,796	3,198	5,994	3.7	
WEST LOS ANGELES AREA						
BELAIR - BEVERLY CREST	472	7	0	7	1.5	
BRENTWOOD - PACIFIC PALISADES	9,265	139	136	275	3.0	
PALMS-MAR VISTA-MARINA DEL REY	27,618	358	478	836	3.0	
VENICE	9,621	178	57	235	2.4	
WESTCHESTER - PLAYA DEL REY	9,761	141	86	227	2.3	
WESTWOOD	11,298	256	320	576	5.1	
WEST LA-CENTURY CTY-RANCHO PK	21,044	323	323	646	3.1	
TOTAL WEST LOS ANGELES	89,879	1,402	1,400	2,802	3.1	
CENTRAL LOS ANGELES AREA						
BOYLE HEIGHTS	15,030	257	33	290	1.9	
CENTRAL CITY	3,218	60	0	60	1.9	
HOLLYWOOD	58,251	1,102	731	1,833	3.1	
NORTH & EAST CENTRAL CITY	1,619	27	5	32	2.0	
NORTHEAST LOS ANGELES	33,067	908	169	1,077	3.3	
SOUTH CENTRAL LOS ANGELES	43,024	2,093	87	2,180	5.1	
SILVER LAKE - ECHO PARK	17,644	451	26	477	2.7	
SOUTHEAST LOS ANGELES	33,160	1,727	169	1,896	5.7	
W ADAMS-LEIMERT-BALDWIN HLS	39,810	1,565	168	1,733	4.4	
WESTLAKE	16,454	368	238	606	3.7	
WILSHIRE	62,988	1,074	669	1,743	2.8	
TOTAL CENTRAL LOS ANGELES	324,265	9,632	2,295	11,927	3.7	
HARBOR AREA						
SAN PEDRO	13,771	405	62	467	3.4	
TORRANCE - GARDENA	4,491	85	35	120	2.7	
WILMINGTON - HARBOR CITY	8,685	245	41	286	3.3	
TOTAL HARBOR	26,947	735	138	873	3.2	
TOTAL CITY OF LOS ANGELES	602,809	14,565	7,031	21,596	3.6	





meters, rather than vacant units available for rent, as defined by the Census Bureau.

Unlike the census, which reports vacancies separately for renters and owners, DWP idle meter counts cannot be used to distinguish between vacancies in owner and renter occupied units.

#### System Change in DWP Reports

During the period covered by this study, DWP changed its reporting system. Prior to 1981, meters for 2, 3, and 4-unit buildings were counted in the single dwelling category. This system change has been taking place for five years and is scheduled to be completed by summer 1985.

#### Idle Meter Count

DWP reports monthly on the number of electric meters where service has been terminated by an occupant . Discontinued electric service may be an indication that a unit is not occupied, but this is not always the case. There may be instances where a unit is occupied but has no electricity. This is not thought to be a common practice since it is a violation of the City's Building and Safety code.

#### Vacancies in Multiples

In the case of multiple unit buildings, DWP reports two categories of idle meters: 1) where the electricity has



been turned off, and 2) where the electricity charge for a unit has been transferred to the property owner.

### Master Metered Buildings

Approximately 70,000 units in older apartment buildings in Los Angeles do not have individual meters for each rental unit. These buildings are called master-metered buildings. DWP idle meter statistics cannot measure vacancies in such buildings (DWP estimated 71,263 units in 5,082 master-metered buildings in Los Angeles as of December, 1984).

### Southern California Gas Company (SCG)

CDD obtained computer print-outs from SCG (CB-IDLE) comparable to the DWP reports from 1981 through 1984. It was not possible to obtain SCG data for earlier years.

For December 1984, SCG reported 454,789 individual gas meters located in the City of Los Angeles compared to 594,039 DWP electric meters in the same service area. Like DWP, SCG also provides gas service to buildings through master meters, although master-metered electric buildings do not necessarily have master-metered gas service.

SCG serves only 77% of the households in Los Angeles. The remaining units have electric service exclusively. SCG does not have a billing switchover service to the landlord at a termination of tenancy.



## Federal Home Loan Bank Board (FHLBB)

The FHLBB vacancy data are published annually. The City regularly receives the FHLBB printed report on vacancies in Los Angeles County. As part of this study, CDD obtained a computer tape from FHLBB headquarters in Indianapolis containing the Los Angeles data by postal routes, and for selected cities throughout the United States.

The FHLBB vacancy rates for apartments are usually significantly lower than the DWP idle meter count. For example, during the FHLBB compilation period for 1984 (March-July), the FHLBB apartment vacancy rate was 1.57% compared to 3.41% idle meter count for DWP. The difference between the two counts is probably due to two concurrent factors: 1) DWP counts idle meters, not vacancies, and 2) the FHLBB survey is conducted one day a year by the estimates of postal carriers who are not specifically trained to conduct the survey. The carriers collect the FHLBB vacancy data as an added duty to delivering the mail.

### Verification of Results

The results are compiled, verified, and analyzed by the FHLBB of San Francisco. However, since the carriers are not professional enumerators, statistical errors may occur, especially in large apartment complexes where the carrier is often dependent on the manager for the number of vacancies,



and where tenants may quit without written notification to the postal service. This probably accounts for the low FHLBB multiple vacancy rate. However, since the FHLBB monitors each carrier's survey reports, looking for gross inconsistencies or wild fluctuations from year to year, whatever errors may exist in the FHLBB system are probably relatively constant.

#### Underreporting Los Angeles

FHLBB understates Los Angeles properties since it lists as Los Angeles only those Zip Codes served by the downtown central post office (Exhibit 3.E.2). Almost one-third of the City is reported by post offices serving outlying Los Angeles sections and neighboring municipalities.

The City is in fact a vast metropolis served by a number of postal centers. In order to review the overall data for Los Angeles, all of the zip codes within the City had to be tabulated by CDD staff in order to correct for this FHLBB reporting error.

#### Zip Codes Crossing City Boundaries

Using the computer tapes from the FHLBB national office, staff reconstituted the FHLBB vacancy data to match the actual geographical boundaries of the City of Los Angeles . For those zip codes where a zip code area covers streets inside and outside the corporate limits of the City of Los Angeles, the vacancy data was allocated





Federal Home Loan Bank Board's Report on Vacancies  
in Los Angeles, 1983

SURVEY DATE: 02/20/83 THRU 05/20/83

FEDERAL HOME LOAN BANK OF SAN FRANCISCO

LOS ANGELES SMSA HOUSING VACANCY SURVEY

## ALL HOUSING TYPES

SURVEY AREA / ZIP CODE	TOTAL UNITS	-----USED-----		-----VACANT-----		-----TOTAL-----		UNDER CONSTRUCTION	
		NUMBER	PCT	NUMBER	PCT	NUMBER	PCT	NUMBER	PCT
LOS ANGELES									
ZIP CODE 90001	12,080	132	1.1	17	0.1	149	1.2	1	0.1
ZIP CODE 90002	10,471	130	1.2	25	0.2	155	1.5	0	0.1
ZIP CODE 90003	14,817	229	1.5	21	0.1	250	1.7	57	0.4
ZIP CODE 90004	21,285	90	0.4	1	0.1	91	0.4	5	0.1
ZIP CODE 90005	8,414	87	1.0	0	0.0	87	1.0	1	0.1
ZIP CODE 90006	18,032	16	0.1	3	0.1	19	0.1	0	0.0
ZIP CODE 90007	12,508	6	0.1	0	0.0	6	0.1	27	0.2
ZIP CODE 90008	13,866	32	0.2	0	0.0	32	0.2	22	0.2
ZIP CODE 90010	6,044	38	0.6	0	0.1	38	0.6	1	0.1
ZIP CODE 90011	21,010	230	1.1	34	0.2	272	1.3	40	0.2
ZIP CODE 90012	5,462	27	0.5	0	0.0	27	0.5	49	0.9
ZIP CODE 90013	356	0	0.0	0	0.0	0	0.0	0	0.0
ZIP CODE 90014	633	0	0.0	0	0.0	0	0.0	0	0.0
ZIP CODE 90015	4,534	34	0.7	185	4.1	219	4.8	180	4.0
ZIP CODE 90016	16,557	532	3.2	10	0.1	542	3.3	334	2.0
ZIP CODE 90017	6,468	0	0.0	0	0.0	0	0.0	0	0.0
ZIP CODE 90018	15,244	138	0.9	16	0.1	154	1.0	1	0.1
ZIP CODE 90019	22,770	111	0.5	1	0.1	112	0.5	1	0.1
ZIP CODE 90020	15,155	2	0.1	0	0.0	2	0.1	2	0.1
ZIP CODE 90021	142	5	3.5	0	0.0	5	3.5	0	0.0
ZIP CODE 90022	15,690	56	0.4	0	0.0	56	0.4	0	0.0
ZIP CODE 90023	10,774	14	0.1	0	0.0	14	0.1	0	0.0
ZIP CODE 90024	14,616	100	0.7	236	1.6	336	2.3	22	0.2
ZIP CODE 90025	19,833	144	0.7	55	0.3	199	1.0	29	0.1
ZIP CODE 90026	23,622	104	0.4	30	0.1	134	0.6	110	0.5
ZIP CODE 90027	22,506	107	0.5	6	0.1	113	0.5	5	0.1
ZIP CODE 90028	16,485	197	1.2	2	0.1	199	1.2	103	0.6
ZIP CODE 90029	14,528	120	0.8	0	0.0	120	0.8	0	0.0
ZIP CODE 90031	9,689	42	0.4	4	0.1	46	0.5	2	0.1
ZIP CODE 90032	11,299	89	0.8	21	0.2	110	1.0	109	1.0
ZIP CODE 90033	12,318	45	0.4	5	0.1	50	0.4	0	0.0
ZIP CODE 90034	23,077	292	1.3	53	0.2	345	1.5	53	0.2
ZIP CODE 90035	12,613	30	0.2	4	0.1	34	0.3	0	0.0
ZIP CODE 90036	16,827	90	0.5	18	0.1	108	0.6	2	0.1
ZIP CODE 90037	15,648	150	1.0	3	0.1	153	1.0	0	0.1
ZIP CODE 90038	11,198	132	1.2	1	0.1	133	1.2	12	0.1
ZIP CODE 90039	11,684	107	0.9	78	0.7	185	1.6	9	0.1
ZIP CODE 90040	3,258	10	0.3	1	0.1	11	0.3	4	0.1
ZIP CODE 90041	8,502	55	0.6	5	0.1	60	0.7	3	0.1
ZIP CODE 90042	17,982	112	0.6	142	0.8	254	1.4	94	0.5
ZIP CODE 90043	15,327	94	0.6	5	0.1	99	0.6	6	0.1
ZIP CODE 90044	24,432	263	1.1	29	0.1	292	1.2	18	0.1
ZIP CODE 90045	13,911	32	0.2	1	0.1	33	0.2	0	0.0
ZIP CODE 90046	25,448	382	1.5	20	0.1	402	1.6	9	0.1
ZIP CODE 90047	16,618	121	0.7	3	0.1	124	0.7	83	0.5
ZIP CODE 90048	12,203	54	0.4	24	0.2	78	0.6	7	0.1
ZIP CODE 90049	17,226	162	0.9	24	0.1	186	1.1	12	0.1
ZIP CODE 90056	3,345	6	0.2	0	0.0	6	0.2	20	0.6
ZIP CODE 90057	12,518	0	0.0	0	0.0	0	0.0	0	0.0
ZIP CODE 90058	1,001	5	0.5	0	0.0	5	0.5	0	0.0
ZIP CODE 90059	9,142	41	0.4	33	0.4	74	0.8	3	0.1
ZIP CODE 90061	6,429	57	0.9	21	0.3	78	1.2	4	0.1
ZIP CODE 90062	9,648	57	0.6	2	0.1	59	0.6	1	0.1
ZIP CODE 90063	12,110	27	0.2	5	0.1	32	0.3	0	0.0
ZIP CODE 90064	10,388	77	0.7	7	0.1	84	0.8	44	0.4
ZIP CODE 90065	13,103	154	1.2	25	0.2	179	1.4	33	0.3
ZIP CODE 90066	22,585	109	0.5	22	0.1	131	0.6	29	0.1
ZIP CODE 90067	2,158	10	0.5	0	0.0	10	0.5	0	0.0
ZIP CODE 90068	12,378	92	0.7	85	0.7	177	1.4	38	0.3
ZIP CODE 90069	15,383	134	0.9	112	0.7	246	1.6	8	0.1
ZIP CODE 90077	3,250	17	0.5	7	0.2	24	0.7	2	0.1
TOTAL LOS ANGELES	776,600	5,937	0.8	1,410	0.2	7,347	0.9	1,611	0.2



between City and non-city areas. The basis for the allocation was the total number of street segments within each zip code area, as recorded on the files of the Los Angeles County Registrar of Voters, classified by city and non-city location. Thus if 18 blocks of a 25-block mail route are in Los Angeles and the remaining 7 blocks are in Long Beach, the data from that mail route are split, 72% to Los Angeles and 28% to Long Beach.

This method of allocating routes brings the number of properties reported by DWP and FHLBB closer than they would otherwise be, but the undercount of master-metered buildings in the DWP idle meter count, the changeover of the DWP system count on 2, 3, and 4 unit buildings, the FHLBB reliance on mail carrier's estimates, and the impossibility of completely correcting for mail routes crossing city boundaries leaves a wide but narrowing gap between the DWP meter count and the FHLBB unit count (Compare Exhibits 2.3 and 2.7).

#### F. SAMPLING OF CAPITAL IMPROVEMENT APPLICATIONS

The Rent Stabilization Ordinance (RSO) permits landlords to increase rents after completing a capital improvement (Sec. 151.07). Eligibility for a capital improvement pass-through requires that the improvement has a life expectancy of five years and meets the definitional requirements of the RSO and Rent Adjustment Commission guidelines (RAC 210.00 et seq.). Examples of capital



improvements include a new roof, and new amenities such as a swimming pool or a security system. The cost of the improvement(s) can be passed on to the tenants based on a five year amortization of the cost and Departmental approval of the application (Exhibit 3.F.1).

### Sampling Technique

From June 1979 - December 1984, 14,010 applications for pass-throughs were received by the Rent Stabilization Division.<sup>12</sup> A stratified random sample of approximately 10% of these applications was used to assess annual capital improvement expenditures (Exhibit 3.F.2). Applications numbered 1 - 10 for every 100 applications (e.g., 1 - 10, 101 -110, 201 - 210, etc.) were drawn. The coding system developed to capture information about these expenditures recorded both the amount requested for a pass-through and the amount approved by the Department. The dollar amount of the approved applications were calculated as the dollar amount of the average rent increases for each unit and also for each building.

As CDD intends ultimately to computerize all the Case Analysis data, additional sets of applications were added as part of an eventual 100% census of these records. All data sets collected are included in this report. To that extent, 1983 is over-sampled. However, averages were used for analysis and therefore data is not biased in that year (Exhibit 3.F.2).



# Capital Improvement Application Form

CITY OF LOS ANGELES  
COMMUNITY DEVELOPMENT DEPARTMENT

## CAPITAL IMPROVEMENTS

RENT STABILIZATION DIVISION

## RENT INCREASE

authorized by L.A.M.C. Sec. 151.00 et seq.

GENERAL INSTRUCTIONS: Fill out this application form using a typewriter or a black ink pen. Please follow instructions contained below.  
If you need assistance, Call 624-RENT or come to RSD, 215 W. 6th Street, 14th Floor, L.A. CA 90014.

FILE NUMBER:  
Do not write in this space

(1) Give the mailing address of the building. If the complex has several buildings, a separate application must be made for each building.

**ADDRESS:**

CITY / ZIP CODE:

(2) Indicate the total number of dwelling units in the building.

(3) Give the Current Rent Registration Certificate Number of the building.

(4) Describe in detail the Capital Improvements. Itemize all work, beginning and completion dates, and costs and indicate the dwelling units that benefitted from the improvements. Use additional sheets if necessary.

ITEM NO.

### WORK DESCRIPTION

DATE WORK BEGAN	DATE WORK COMPLETED
--------------------	------------------------

TOTAL COST:

**DWELLING UNITS  
BENEFITTED:**

(5) Show the computations by which the Capital Improvements are amortized. Example: Total cost = \$60,000 divided by 60 months = \$1,000 per month divided by 50 units = \$20 per month per unit.

(6) Please give Case Numbers of previous applications submitted regarding this property:

(7) Give the name of the owner of the building or the legal representative. Include the mailing address and daytime telephone number.

NAME: \_\_\_\_\_

**ADDRESS:**

CITY / ZIP CODE:

PHONE NO. \_\_\_\_\_

"I CERTIFY THIS INFORMATION IS TRUE AND CORRECT, TO THE BEST OF MY KNOWLEDGE."

Signature of Owner or Owner's Agent \_\_\_\_\_

Date \_\_\_\_\_

City, State

ATTACH PHOTO COPIES OF: (1) The Owner's Current Rent Registration Certificate

(2) All invoices, bids, financing, cancelled checks, and other relevant papers, otherwise your application must be rejected.





# EXHIBIT 3.F.2      Sample of Applications Received

Year	Total Cases Rec'd	Total # Cases Sampled	% of Total Sampled
1979	1,008	83	8.2%
1980	2,195	196	8.9%
1981	2,854	267	9.4%
1982	2,857	240	8.4%
1983	2,412	417	17.3%
1984	2,684	225	8.4%
	14,010	1,428	10.1%

Source: Rent Stabilization Division's Case Analysis files

Cases were deleted from the sample for the following reasons:

1. technical difficulties with Rent Registration files (e.g., matching registration numbers to actual cases)
2. applications filed and later withdrawn before Departmental action
3. cases in litigation

## Coding System

Seventy-five categories were developed to code capital improvements (Exhibit 3.F.3). The categories range from minor improvements, such as replacing a window pane, to major improvements, such as a master meter conversion. Exhibit 3.F.3 indicates the sample size for each category over the six year period where the sample size was greater than ten.



## EXHIBIT 3.F.3

Sample Size by Improvement  
Type, 1979-1984

<u>Type</u>	<u>Average Cost \$</u>	<u>Standard Deviation \$</u>	<u>Sample Frequency</u>
Roof	463	466	427
Exterior painting	323	374	270
Carpeting	452	393	215
Hot water heater	214	170	155
Piping	492	1494	103
General component parts	161	330	95
Concrete work	245	376	83
Refinish/replace/repair cabinets/doors	244	394	83
Air conditioners	538	484	82
Stairs/stairwell	261	338	77
Fence, iron	191	250	73
Security system (window bars)	319	412	73
General minor interior remodeling	331	670	69
Wiring	309	548	66
Interior painting	117	156	61
Exterior lighting	121	157	59
Garbage disposal	96	57	59
Drapes	185	151	59
General exterior remodeling	486	675	55
Solar energy system	720	477	51
Stucco	1123	1424	50
Screen	82	99	47
Landscaping	140	174	47
Plastering	125	132	46
Dishwasher	288	49	46
Heaters vented	489	920	45
Retile bath/counter tops	734	756	41
Miscellaneous non-capital improvement	74	132	37
Refrigerator	335	98	35
Gutters	111	96	35
Toilets	157	116	34
Linoleum	175	161	29
Elevator	54	82	29
Valves	81	74	28
Stove	281	205	27
Fire extinguisher	57	67	27
Smoke detectors	105	72	26



General major interior remodeling	1530	3233	26
Refinish/install floor	263	179	25
Window panes	364	501	24
Insulation	278	150	23
Sewer line	545	816	22
Furnace	413	299	20
Driveway paving	361	421	20
Master meter conversion (electrical)	405	249	20
Locks	53	40	19
Kitchen sink	253	405	18
Bathroom sink	94	73	18
Pool	140	226	17
Security system (alarm)	79	124	16
Boiler	74	79	14
Furniture	52	64	13
Interior lighting (common)	22	25	13
Bathtub	244	261	13
Extermination/fumigation services	197	77	12
Pool fixtures	62	89	11
Outlets	205	152	10
Antenna	64	47	9

Other Categories Included with  
Sample Size Less than 10

Shower  
Additional room  
Door opener  
Fire escape/door  
Window frame (wood)  
Intercom system  
Switches  
Interior lighting (unit)  
Clothes dryer  
Master meter conversion (gas)  
Window frame (metal)  
Jacuzzi  
Sauna  
Wall  
Clothes washer  
Laundry sink  
Washer/dryer combinations



# EXHIBIT 3.F.4

## Frequency Count of Registration Numbers

Number of Applications Per Registration Number	Number of Registration Numbers Sampled	Total Number of Applications Sampled
1	950	953
2	126	254
3	31	93
4	11	44
5	4	20
6	4	24
7	0	0
8	1	8
9	0	0
10	2	20
11	0	0
12	1	12
TOTAL	1130	1428

## Limitations of Data

The CI rent increases can be given only to tenants in units that have not been re-rented at full market rent since the improvement was completed. As a result, some landlords with high turnover may not apply for CI increases as they recoup their costs at turnover. Other landlords may not be aware of their eligibility for CI increases. Some landlords may find it difficult or be unwilling to complete the administrative procedure mandated for a CI rent increase. Also some improvements made by landlords, such as the painting of the interior of a unit, are not eligible CI expenses. Thus, the City's CI files do not record all capital improvements actually made by the City's landlords





in buildings subject to the RSO. Moreover, there are no available data from the period prior to rent regulation with which to compare landlord CI expenditures during the RSO. The City's CI applications do not cover all landlord maintenance or capital expenditures.

#### Usefulness of Data

However, this data source can provide some indication of the level of property maintenance and improvement in the City since 1979. Coupled with derived data from the FTB, AHS, and IREM, this CI information provides reliable and verifiable statistics on property maintenance during the City's regulation of rent.



PART 3  
FOOTNOTES

<sup>1</sup> Using 1980 as a base year, a list of multi-family building permits was compared to a list of Certificates of Occupancy recorded on the Tax Assessor's file. Where no Certificate of Occupancy was recorded, site visits were made. The combined results were that 94% of the buildings had been constructed to date.

<sup>2</sup> The Assessor's Office codes a multi-family development as a condominium development when the developer sells the first unit.

<sup>3</sup> The LUPAMS file used for this survey was dated March 1984 and included information about the property owner as of that date. The site visits were made in September 1984 amounting to a six month lag period. However, there does not appear to be a significant discrepancy (see Exhibit 3.D.3).

<sup>4</sup> The complex in LMPA 2 is a series of row developments. The surveyor did not have access to the names of the occupants.

<sup>5</sup> Includes units converted to condominium ownership and then rented out again, the purchase of condominium units as investments, renting them while waiting for their value to appreciate on the ownership market, and condominium units that either the developer or owner is unable to sell.

<sup>6</sup> Electrical and plumbing fees were not included since these fees were relatively insignificant and were constant among all cities.

<sup>7</sup> Percentages were derived by creating two categories: (1) R-1 zones which allow only one unit per parcel and typically translate into one to eight units per acre. (2) All other land zoned for residential use which is not R-1.

<sup>8</sup> Included but not limited to, density bonuses, growth-control measures, height limits, etc.

<sup>9</sup> Adding or subtracting of a city's score due to policy changes over the past 10 years was used only once since most of these cities have had relatively few system changes over-time. The exception was Pasadena which implemented density bonuses in 1982; therefore, its score was slightly lowered.

<sup>10</sup> For purposes of this study, the term vacant land will be used to apply to "buildable" and "unimproved" land, terminologies more commonly used by Planning Departments and



the Tax Assessor in estimating acreage or parcels that are available for development.

<sup>11</sup> In 1978, the Los Angeles Planning Department estimated that approximately 7.6 percent of the multi-family zoned acres were available for development.

<sup>12</sup> Records include capital improvement, rehabilitation, and Just and Reasonable (e.g. "hardship") applications.



## GLOSSARY OF TERMS





## GLOSSARY OF TERMS

### A. ABBREVIATIONS AND ACRONYMS

AHS	American Housing Survey, formerly known as the Annual Housing Survey, conducted on a triennial basis by the United States Department of Housing and Urban Development (HUD) of selected Standard Metropolitan Statistical Areas (SMSA)
AYC	Arthur Young & Company, one of the consortium of contractors for the 1984 Rental Housing Study
B&S	The Building and Safety Department of the City of Los Angeles
BLS	The Bureau of Labor Statistics of the United States Department of Labor (DOL)
CAP	The Community Analysis and Planning Division of the Community Development Department (CDD) of the City of Los Angeles
CAR	The California Association of Realtors
CD	Council District; Los Angeles is divided into 15 Council Districts
CDD	The Community Development Department of the City of Los Angeles
CI	Capital Improvement, as defined in LAMC 151.02 C. Under the Rent Stabilization Ordinance (RSO), landlords may pass on the cost of capital improvements to tenants by amortizing the cost over a 60-month period. Such increases are permanent and become part of the Maximum Adjusted Rent (MAR) of a tenant



CPI	<p>The Consumer Price Index is published monthly by the Bureau of Labor Statistics (BLS) of the United States Department of Labor (DOL). This index, first published in 1919, is based on the cost of a market basket of typical goods and services purchased by a sample of U.S. consumers the cost of which was weighted and measured at 100.00 during 1964. Price changes are indicated both as increases or decreases in the index and as percentage changes. Periodically the index is re-weighted to reflect long-range changes in consumer buying habits. In addition to a detailed national index, the BLS publishes a number of regional indices including one for the Los Angeles-Long Beach-Anaheim SMSA. The number of items published for the SMSA is limited. In general this study uses the All Urban Consumers index (unadjusted for seasonal changes). Wherever possible the year-to-year comparisons are done September-to-September to correspond with the time period used by the Federal government to compute annual cost-of-living adjustments (COLA) for social security and federal retirement programs.</p>
COLA	<p>Cost Of Living Allowance granted annually to Social Security recipients and other groups entitled to benefit adjustments on government programs</p>
CRA	<p>The Community Redevelopment Agency of the City of Los Angeles</p>
CRW	<p>Cited Rehabilitation Work as defined in LAMC 151.02 J. When a landlord is cited by the City's Building &amp; Safety or Fire Departments, or by the County Health Department. The cost of the CRW may be passed on to the tenants as a monthly increase equal to 1/60th of the approved cost of the improvement. The rent increase is permanent and becomes part of the Maximum Adjusted Rent (MAR)</p>
DOL	<p>The U.S. Department of Labor</p>
DWP	<p>The Department of Water and Power of the City of Los Angeles</p>



EIR	Environmental Impact Report, a requirement of the California Environmental Quality Act (CEQA). Prior to the extension of the RSO in 1982, the City of Los Angeles issued an EIR on the environmental impact of rent regulation
FHLBB	The Federal Home Loan Bank Board of San Francisco, the regional division of the FHLBB which covers the California area
FTB	The Franchise Tax Board of the State of California is the division of the State of California which processes state income tax returns. The FTB regularly publishes state-wide and county-level reports indicating aggregate tax data derived from tax filings. The identity of individual tax filers is always protected
GOC	The Governmental Operations Committee of the Los Angeles City Council which reviews the Rent Stabilization Ordinance (RSO)
GPTI	Gross Possible Total Income, as defined in the annual income/expense reports of the Institute of Real Estate Management (IREM)
HRS&A	Hamilton, Rabinovitz, Szanton & Alschuler, the principal contractor for the 1984 Rental Housing Study
IREM	The Institute of Real Estate Management, a Chicago-based association which annually publishes income/expense data on the operation of apartment buildings by its members. IREM reports its findings nationally, regionally, and by selected major cities. IREM data referred to in this study is derived from IREM's annual reports for various building types weighted by the number of buildings in each category
IRS	The Internal Revenue Service of the U.S. government. Among the documents required for individual tax filers is Schedule E, the form used to report income and expenses from rental property. This same form or its equivalent is required by the FTB for California tax filers to report the income and expenses of rental property



The Institute of Social Science Research at the University of California at Los Angeles. This research organization conducted the 1980 Rental Housing Study for CDD/RSD

Just and Reasonable, a term denoting the constitutional minimum return for rent-regulated properties, and specifically, a rent increase permitted under the RSO as described in LAMC 151.07 B1; the J&R guidelines promulgated by the RAC are based on comparative net operating income (NOI) between 1977, the year before the City's regulation of rent began, and the current year, with an adjustment for inflation

The Los Angeles Municipal Code

Labor Market Planning Area: the City of Los Angeles is divided into six geographical areas for demographic and statistical purposes (following data based on 1980 Census)

```
LMPA #1: the eastern end of the City;
population          279,508
median contract rent    $ 182
```

LMPA #2: south central;  
population 556,673  
median contract rent \$ 164

```
LMPA #3: north central/Hollywood
population          613,954
median contract rent    $ 212
```

LMPA #4: San Fernando Valley  
population 1,017,053  
median contract rent \$ 287

```
LMPA #5: west side
      population      346,338
      median contract rent  $ 327
```

```

LMPA #6: San Pedro area
population          152,616
median contract rent    $ 225

```

## Landlords

Maximum Adjusted Rent, the Maximum Rent (MR) plus any allowable increases made since May 31, 1978 as defined in LAMC 151.02H





MR	Maximum Rent, the highest legal rent in effect during April, 1979, or if unrented at that time, the rent in effect on May 31, 1978, as defined in LAMC 151.02I
MHO	Mobile Home Owner designates both the owner and a tenant occupying a mobile home owned by someone else
MHP	Mobile Home Park designates land and facilities which mobile home owners rent to locate their mobile homes
NOE	Net Operating Expense, as defined in IREM and in the RAC J&R guidelines; all operating expenses, except interest and depreciation
NOI	Net Operating Income, as defined in IREM and the RAC J&R guidelines; gross possible total income (GPTI), less all operating expenses, except interest and depreciation
PSMSA	Primary SMSA (where a property may be located in overlapping metropolitan areas) of the city or the County in which a unit is located
RAC	Rent Adjustment Commission of the City of Los Angeles, a citizen commission charged with issuing guidelines for the Rent Stabilization Ordinance, established to act as an appeals board for Just & Reasonable rent increases, and given powers to conduct studies as needed with respect to the Ordinance
RSD	Rent Stabilization Division of the City of Los Angeles' Community Development Department (CDD), the agency charged with administering the Rent Stabilization Ordinance (RSO)
RSO	Rent Stabilization Ordinance of the City of Los Angeles, effective May 1, 1979, following a seven-month Rent Moratorium



**SMSA** Standard Metropolitan Statistical Area, a term used by the Bureau of Census and the Bureau of Labor Statistics (BLS) to indicate large urban areas throughout the United States; the Los Angeles SMSA includes, as of 1985, all of Los Angeles County

**SREA** The Society of Real Estate Appraisers, an association of realtors who in the 1970's and early 1980's published appraisal data annually indicating the value of rental housing properties sold in the Los Angeles area. This same type of data, incorporating the Assessor's files, is currently available from several computerized data sources

**TT** Tenants

**UI** Urban Institute, a Washington based research organization, one of the consortium of contractors for the 1984 Rental Housing Study



## B. DEFINITIONS

AGGREGATE	The sum total of individual entries, for example, the Franchise Tax Board (FTB) annually publishes aggregate or summary statistics on the total tax filings of individual California tax payers.
ASSESSOR	The office of the County of Los Angeles which records the assessed value of property for tax purposes.
AVERAGE	The sum of a series divided by the number of items in a series (the same as the Mean)
BENEFIT OF TENURE	As used in this study, the term refers to tenant satisfaction for remaining in place derived from a combination of all values related to the tenancy, such as the amount of the rent, the pattern of rent increases, the tenant's feeling toward the landlord, the location of the building, the condition of the rental unit, the sense of well-being or protection felt because of the RSO and any other benefit that provides the tenant an incentive for remaining in the unit.
CASH FLOW	Net operating income minus mortgage payment. Cash flow can be either positive or negative. The former results in a profit from the property and indicates that money is flowing from the property to the owners, while the latter denotes a loss which in turn requires an infusion or flow of money from the owners to the property to make up the loss.
COEFFICIENT	Any one or more numbers or symbols placed before another number and used as a multiplier. For example, $MAR = X \times MR$ , where $X = 7\% \times N$ squared.
COEFFICIENT VARIABLE	Also called the coefficient of correlation or the correlation of association; a measure designed to show the degree of association between two or sets of characteristics, such that $+1$ = complete association and $-1$ = total non-association.



CONSTANT	A quantity that is fixed in a formula or equation. For example, in determining the circumference of a circle, the formula developed empirically is $C = \pi \times D$ . $\pi$ is the constant and was found to be .31415. When this constant is multiplied by the diameter of any circle, the resulting figure will be the circumference.
CONTRACT RENT	As defined by the Census Bureau, contract rent is the actual rent paid to landlords but does not include utility costs except in master-metered buildings where contract rent and gross rent are identical. stabilized.
CONTROL VARIABLE	A formula where one variable has a known value. This enables a test of the validity of the formula before it is used to determine results when unknown variables are introduced.
COST-BASED INDEX	As used in this study, a cost based index is a list of landlord expenses grouped in standard classifications for comparison purposes (PIOC).
COVARIATION	A measure of the relationship between two statistical variables. For example, there could be a consistent relationship between the increase in the price of land and the increase in the cost of rental housing units. If such a relationship exists, a formula can be written to express the influence of the one variable on the other.
CROSS-SECTIONAL DATA	The properties of component segments within something being studied. For example, in a survey of landlord operating costs, a cross-sectional sample would analyze the components of a typical landlords' operating costs. Various formulas could then be devised to predict the results stemming from price changes in each of the various components.





CROSSED  
TABULATIONS

A tabulation is the heading or title of a list of values. A crossed tabulation is the comparison of the entries in one "tabbed" list with another set. For example, the survey results of the tenant survey in this study can be tabulated by rent level responses and by the age of the head of the household. When the entries of both these tabulations are compared, the result is a crossed-tabulation.

DECONTROL

The provision in LAMC 151.06C which allows a landlord to re-rent a unit at the market rate if the unit is vacated voluntarily or after an eviction allowed by one of several provisions of the Just Cause Eviction section, LAMC 151.09 (e.g., non-payment of rent), which permit decontrol.

DENSITY RATE

Density is determined by the average number of persons living in each dwelling unit. The density rate is a comparison of dwelling unit occupancy over time. In general, high rents or low income are strong incentives for persons to double up or share housing accommodations. As affluence increases or rents drop, a drop in housing density can normally be expected.

DEPRECIABLE  
BASIS OF  
THE PROJECT

The amount of money that can be depreciated in the financing of rental housing is called the depreciable basis of the property. Each year, as depreciation is used by the property owner when filing tax returns, the undepreciated amount or "basis" of the property diminishes. The practical effect of a declining basis of depreciation is that the profit at sale of the property is larger than if the property had not been depreciated. In some instances, the increased tax is offset by capital gains provisions of the tax codes.



DEPRECIABLE  
LIFE

The length of time over which depreciation is spread. In general, rental units can be depreciated over a 30 or 40 year period under federal and state tax regulations. However, when public policy is changed to encourage construction of rental housing the depreciable life can be shortened to allow greater expense write-offs annually, such as the federal accelerated depreciation in effect from 1981 through 1984 for rental housing. Furniture and major appliances such as refrigerators and stoves have a depreciable life of 5 years according to IRS and FTB regulations currently in effect.

DEPRECIATION

The lowering of value caused by use. In this study the term denotes the deduction permitted by federal and state tax agencies to rental property owners as an annual allowable expense to reflect the declining value of rental property improvements over time. The improvements only, not the value of the land, can be depreciated.

DEREGULATION

A provision of the RSO which permits permanent removal of a rental unit from the regulated universe. Exemption of units which were rented at a luxury level on May 31, 1978 and units where substantial renovation have taken place are examples of permanent deregulation (LAMC 151.02). If a unit becomes part of the HUD Section 8 program it is deregulated as long as it remains in that program.

DISBENEFIT

A negative value. For example, the higher an apartment may be in a building with an elevator, the more valuable it is considered to be; hence each additional floor confers an added benefit. However, if the building has no elevator there is a lower value for each floor up due to the inconvenience of climbing stairs. In such a building, each additional floor would be an added disbenefit.



DUMMY VARIABLE	A variable in a mathematical formula which is actually a constant. For example, if a 7% increase each year is multiplied by the base rent in effect at the time of the increase, the formula can be written with 7% used as a multiplier each year (a dummy variable), or written as a constant (7% compounded for each year times the base rent).
EMPIRICAL DATA	Factual or observable phenomena, in contradistinction to theoretical. Rent levels can be established either empirically or theoretically. In the former, a survey can determine the actual change in rent levels over time during rent regulation. A theoretical rent level could also be established by postulating various factors which would raise rents and devising a formula which would estimate rent levels based on a formula which takes into account the factors which affect rent. Often it is impossible or impractical to obtain empirical data. Theoretical calculations then provide an alternative source of information for policy makers when empirical data cannot be obtained.
EXEMPT UNIT	A rental housing unit in Los Angeles which is not subject to rent regulation, such as newly constructed or luxury units or units owned and operated by governmental agencies.
EXPERIMENTAL HOUSING ALLOWANCE	A HUD program currently being tested in selected markets to determine the efficiency of using vouchers by HUD-financed agencies given to persons eligible for a housing subsidy, instead of having the agency pay the subsidy to the property owner.
FMR	A term used by HUD denoting the "Fair Market Rent" in a community which is used as the basis for establishing HUD subsidies. The term covers all rent including utilities (except telephones), stoves, refrigerators, parking, all maintenance, management, and other essential housing services of a unit of modest design with standard amenities.



GEOMETRIC AVERAGE	As used in this report, an average which includes the compounding effect of annual rent increases.
GROSS RENT	As defined by the Census Bureau, Gross Rent is the rent actually paid to the landlord plus the cost of utilities paid by tenants. In master-metered buildings contract rent and gross rent would be identical.
HEDONIC INDEX	A comparison of the value of variables where each variable has assigned a standardized mathematical weight in proportion to a constant, such as rent. This enables a comparison of rental units with differing amenities and different rent levels. For example, if a fireplace is assigned a weight of 10%, a walk-in closet 10%, and a balcony 15% of each \$100 of rent, then a rental unit containing all three of these amenities and renting for \$260 would be equal in value and satisfaction to a tenant to an otherwise comparable unit with none of these amenities.
HOUSEHOLD	All persons who occupy a housing unit, as defined by the Census Bureau.
HOUSEHOLD INCOME	The combined income of all members of a household.
HOUSING UNIT	A house, an apartment, a group of rooms, or a single room occupied or intended for occupancy as separate living quarters, as defined by the Census Bureau.
IMPUTED RENT	As defined by HRSA in their Format, "imputed rent" is the rent that would have been in effect in the absence of the RSO.
INDEX	A systematic listing of items grouped for comparison purposes (see Cost-Based Index and Consumer Price Index).





## INDEX VALUES

As used in this study, the term denotes the mathematical weight of each item in an index or list. For example, the components of the CPI are given individual values. Both changes in the index and changes in each item can be monitored. In the landlord cost index, each typical landlord expenditure can be assigned a weight or mathematical value as a proportion of a "typical" landlord's income and expenses as measured by IREM or the FTB. The effect of changing prices of individual index items can be measured and the effect of changing prices of materials and services making up a typical landlord's expenses can be aggregated to determine the impact of inflation or deflation on a typical landlord's costs.

## LAGGED VARIABLE

A variable which has a time delay in respect to other factors. For example, in a formula attempting to show the impact of interest rates on construction, there would be lag-time between changes in the interest rate and changes in the construction rate, since financing is normally completed well before actual building starts. To compensate for the lag, a formula might compare changes in interest rate with construction six months after the change. Examining a set of time series, one on interest rates, and another on construction rates, would determine if there is a consistent pattern of behavior where a change in one series is mirrored by a direct or inverse correlation in the other series at a later date.

## LANDLORD SURVEY

As used in this study, the survey conducted by HRSA and AYC in the fall of 1984 of landlords in the City of Los Angeles and certain neighboring municipalities.

## MAINTENANCE

As used in this study, those portions of a landlord's operating costs expended to maintain the rental property. For example, gardening, tightening leaky faucets, pool-cleaning, replacing light bulbs in the common areas, etc.



**MARGINAL TAX  
RATE**

The tax rate that applies to each addition to income. For example, if the tax rate on \$10,000 was 25% the tax would be \$2,500. If the tax on \$30,000 was 33%, the tax would be \$10,000. The additional tax on the added \$20,000 of income is \$7,500, so the marginal tax rate on the additional income is 37.5%.

**MARKET RENT**

As used in this study, the price of renting each rental housing unit at any given moment of time, where there is no interference with the the supply or demand for rental units aside from the natural forces of the availability of rental housing and the financial ability of renters to afford housing.

**MASTER METER**

A term referring to the type of utility meter in a rental property where there is one or a few electric or gas meters serving a larger number of rental units.

**MEAN**

The average of a series of numbers. For example, adding five different rents of \$100, \$105, \$130, \$190, and \$850, and dividing by 5, produces an average rent of \$281. In rent level comparisons between Median and Mean (average) rents, the average rent is almost always higher than the median due to the disproportionate influence of very high rents on the average.

**MEDIAN**

The middle number in any sequential series of numbers. For example, using the same series of rents as in the explanation of Median, \$100, \$105, \$130, \$190, \$850, the median rent is the third rent in the series, \$130. Note that the average rent for this same series is \$281.

**MOBILE HOME  
SURVEY**

As used in this study, surveys of mobile home residents and mobile home park operators conducted in the fall of 1984 by HRSA and AYC.

**MOBILITY RATE**

The number of rental units vacated over a given period of time with respect to the total universe of rental units, usually stated on an annual basis. Comparison of one period to another



provides a method of measuring changes in the movement of tenants.

"MODEST INCOME"	A generic term used in this report which refers to the income levels of households eligible for various HUD programs. By definition it excludes households with an income above the City's median household income.
MORATORIUM	A rent freeze passed by the Los Angeles City Council effective from October 1, 1978 until April 30, 1978 and succeeded by the Rent Stabilization Ordinance. The number and type of units covered by the Rent Moratorium differed from those under Rent Stabilization. Rent increases to market were permitted at voluntary quittance, after capital improvements and cited rehabilitation work, but no annual increases were permitted.
MULTIPLE CAUSAL VARIABLE	A variable that is dependent on or interactive with another variable so that a change in one of the variables produces some change in the other variable. For example, property taxes in California are based on both assessed value and a tax rate stated as a percentage of assessed value. Therefore changes in either the assessed value or the tax percentage will result in changes in a landlord's NOI.
NEGATIVE CASH FLOW	As used in this study, the situation where rental property produces a loss after deducting operating expenses and interest from income, which results in the owner having to infuse additional capital into the property.
NON-SHELTER CPI	Those items in the Consumer Price Index which are not contained in the "Shelter" category, such as the cost of home purchases and rent. By using an index which does not measure changes in the shelter category, the effect of rent increases would not be "circular" (result in having the increase in rent effect the index which would then be the basis for a further increase in rent)



NON-MONETARY BENEFIT	As used in this study, any value to a tenant that has no direct financial value, such as security of tenure, a view, friendly neighbors, access to public transportation, etc.
OPERATING COST	As used in this study, all non-capitalized costs associated with the operation of rental housing property, except interest paid on money borrowed to purchase or improve the property or depreciation.
OWNER'S CAPITAL GAINS TAX RATE	A term denoting the income tax status of a property owner, specifically referring to the tax on profits earned from a long-term investment as defined by the Internal Revenue Service and the Franchise Tax Board.
PARAMETER	An expression denoting the range or limits of a series of items or values to be included in a model.
POSITIVE CASH FLOW	As used in this study, the situation where a rental property earns a profit for the owner after all operating expenses and interest have been deducted.
PROPOSITION 13 (PROP 13)	An amendment to the California state Constitution enacted by initiative in 1978. This amendment reduced property taxes to 2% of their 1975 valuation. It limited valuation increases to 2% per annum except at the time the property exchanged hands, when the property is reappraised at current value. Prop 13 also limited the powers of the state legislature and municipal governments to increase taxes, requiring a 2/3 voter approval for any tax increases .
PROTOTYPES	An original upon which others are modeled.
RANDOM SAMPLE	A selection of a small quantity taken from a larger quantity where each one selected has an equal probability of being chosen. For example, the selection of tenants and landlords for the 1984 Rental Housing Study.





REGISTERED UNITS	The units subject to the RSO, where the landlord has registered the properties and paid the annual registration fee (\$7 per unit at the time of this study). Failure to register a unit is a misdemeanor and subjects the property owner to various penalty fees. In order for a property owner to evict tenants under the Just Cause Eviction provisions of the RSO, a unit must be registered if it is subject to regulation.
REGRESSION	The projection of the probable value of one variable given various values of a second variable. For example, projecting estimated housing construction on the basis of varying interest rates
SCAG	The Southern California Association of Governments, a regional organization of southern California municipalities which collects statistical data of common interest to these municipalities.
SCHEDULE E.	A form used by IRS and FTB on which property owners record income and expense information. Standardized categories of expenses are listed. Data from a sample of Los Angeles landlords' Schedule E forms are included in this study.
SECTION 8	A HUD program which assists the economically disadvantaged by subsidizing rents. Units under a Section 8 agreement between the landlord and an authorized agent of HUD are not subject to the RSO. If a Section 8 unit returns to the regular housing market it returns to RSO regulation.
SIMPLE AVERAGE	The total sum of a numerical series divided by the number of entries.
STABILIZED STOCK	Those units in the Los Angeles rental housing market which are subject to rent regulation. Slightly over 500,000 rental units located in 72,000 properties are currently registered with the RSD. The stabilized stock includes all rental dwelling units in the City of Los Angeles except those that are exempt. Exempt units include single family dwellings where



there are two or less on a lot, units with a certificate of occupancy issued on or after October 1, 1978, luxury units, and several other categories defined in LAMC 151.02. In addition, rental units in hotels and motels where an occupant resides for 60 days or more and all rented mobile homes and mobile home pads are stabilized.

STANDARD  
DEVIATION

A statistical measure involving the square roots of numbers in a series used to provide a more accurate picture of the grouping of the numbers. In a typical distribution of survey responses, the majority of the responses cluster toward the median or mean, producing a bell curve when the series is viewed geometrically. A standard deviation is a measure of the distribution of these responses. One standard deviation covers two-thirds of the responses. One standard deviation below the mean (average) includes 33% of the cases below the mean.

STRATIFIED  
RANDOM SAMPLE

A sample that has been selected from a population which has been stratified. For example, the analysis of cases chosen from CDD's Case Analysis capital improvement applications were selected from the first ten cases of each 100 applications; 1-10, 100-110, 200-210 etc.

SUBSIDIZED  
HOUSING

As used in this study, subsidized housing is housing constructed with some form of special financial assistance to a builder from the federal government, the state, or the municipality. It would include low-interest loans, low-cost land, and direct payment for some or all parts of the construction costs. It would not include variances and other changes of zoning restrictions to permit housing construction.

TENANT SURVEY

As used in this study, the survey of tenants in Los Angeles and neighboring municipalities conducted by HRSA and AYC in the fall of 1984.

TENURE

The period of time of a leasehold.



**TIME SERIES**

A set of observations conducted over time. For example, the median rent for Los Angeles in the decennial census from 1940 through 1980 would be a time series

**VARIABLE**

Anything which can have differing numerical quantities, such as rent.



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